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Medical Lib

AMERICAN JOURNAL OF PUBLIC HEALTH

THE JOURNAL *of the* AMERICAN PUBLIC HEALTH ASSOCIATION

PRESIDENT McLAUGHLIN'S ADDRESS

A. P. H. A. REORGANIZATION REPORT

REVISED CONSTITUTION AND BY-LAWS

NEXT STEP FOR STATE HEALTH DEPARTMENTS

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PRESIDENTIAL ADDRESS OF A. J. MC LAUGHLIN, M. D.

PRESENTED TO THE FIFTY-FIRST ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION, CLEVELAND, OCTOBER 16, 1922.

THE history of the American Public Health Association is one of glorious achievement. It is the history of the development of public health itself. A roll call of its older and earlier members includes the names of all the great figures whose constructive genius built our health departments. The contributions of its members in research made possible the great saving of lives which is shown by our phenomenal reduction in death-rates, and these contributions not only revolutionized public-health practice in this country, but set an example of method and procedure which has been copied in all parts of the world.

The evolution of public-health work has been characterized by a broadening of scope and the inclusion of non-medical personnel. The scope of public-health work has been broadened in very large measure by the work of unofficial organizations working in coöperation with official agencies. Unofficial organizations can, and usually do, initiate new expansions in the public-health field years before the official agency can secure money or authorization therefor. They are always ready to carry on such work in accordance with official programs and to surrender the work to the official agency whenever that agency is ready and willing to take it over.

The inclusion of larger numbers of non-medical personnel in health departments was inevitable with the evolution and expansion of public-health work, and sanitary engineers, chemists, bacteriologists, public-health nurses and other non-medical personnel are necessary units in any well organized health department.

The field of public health expanded first from the suppression of epidemics to the prevention of the spread of epidemic disease. It then expanded from the prevention of communicable disease to the prevention of all diseases, and finally from the negative prevention of disease through personal hygiene to the positive maintenance of health. This continual expansion is responsible for the very complex organization which is now necessary in our health departments.

The American Public Health Association kept pace with this expansion by admitting to its membership and councils representatives of the unofficial voluntary agencies engaged in public-health work, and by taking in as members sanitary engineers, bacteriologists, chemists, public-health nurses, and all others engaged or interested in public-health work.

The American Public Health Association is a unique organization in being the only forum in which health workers, medical and non-medical, official and un-

official, lay and professional, meet regularly on a common ground to discuss all phases of public-health problems.

There are medical conferences on public health. There are the meetings of highly specialized health workers on their specialties; there are the meetings of unofficial health organizations; there are conferences between the federal and state health officers; but I repeat, there is only one organization which affords an opportunity for federal, state, and local health officials to meet on a common ground with each other and with the representatives and employees of unofficial and voluntary agencies; only one organization in which the doctor, sanitary engineer, chemist, public-health nurse or other health worker, meet and discuss public-health problems—and that organization is the American Public Health Association. No other organization is so representative of all groups which make up our complex public-health activity and, therefore, no organization is so well qualified to exercise national leadership in securing a combined synchronous attack by official and unofficial agencies upon public-health problems.

It seems clear to me that if the American Public Health Association is to fulfill its manifest destiny, it must continue its work in standardization and it must do its part in establishing a public-health profession. The traditions and history of the American Public Health Association prove that one of its most useful functions is standardization. Its work on milk and water standards, and standards of method and procedure in public-health practice, demonstrates the wisdom of continuing such work. The Association should serve as a reservoir for the collection of information and as a clearing house for its distribution.

The time has arrived for the establishment of a public-health profession. The work is highly specialized, but this fact is not generally known or accepted. A graduate M. D. without special training is not qualified to administer a health department, any more than to practice any other specialty without proper training.

There are two obstacles to public-health progress which stand out with great prominence. They are insecurity of tenure and inadequate compensation of health officers. I believe that no single step promises so much in surmounting these obstacles as the establishment and recognition of a public-health profession.

The American Public Health Association has kept pace step by step with the evolution of public-health work in this country, but in so doing it has become a highly complex organization operating under a constitution and by-laws which are in need of revision to meet the responsibilities and duties of the future. For years there have been demands from the membership for revision of the constitution, and last year (1921) a revision was completed, but at the annual meeting a new resolution was presented which seemed to suggest further and more radical revision. A Committee of Fifteen was appointed by your President to consider reorganization of the Association, and to make recommendations for such revision of the constitution and by-laws as might seem necessary. This question is of such fundamental importance that I have confined my attention to it in the time I have been able to give to Association matters during the past year, and I suggest that in lieu of a longer and more formal presidential address we devote the remainder of the time this evening to the report of Dr. Henry F. Vaughan, chairman of the Committee on Reorganization.

□

REPORT OF COMMITTEE ON REORGANIZATION

Introduction

At the last annual meeting of the Association, held October, 1921, in New York City, there was presented a resolution expressing the feeling of many members of our Association, that certain improvements could be made in our form of organization which might strengthen our membership, and give opportunity for the development of new activities. There was by no means universal agreement in the complaints which were offered at this time, and it is believed that some of the remarks presented in the resolution were unjustified, but, it is agreed that in the main there was proper foundation for much of the criticism, and the resolution has been instrumental in instituting a thorough housecleaning, as it were.

The American Public Health Association at its inception was organized by individuals who were primarily engaged in public-health activities, and under such administration the Association rapidly developed and was directly responsible for the spread of the public-health movement. It was through the influence of its members that the National Board of Health was brought into existence, to be followed later by the United States Public Health Service. Many of the state health departments owe their early existence to the impressive preachings of the pioneers in sanitation and preventive medicine who constituted the first members of our Association. We have a past record of which we should be justly proud. With the growth of a general appreciation on the part of the public of the value of a health service, it became natural that many of our intelligent citizens should desire active association with those actually engaged in our profession. The Association, therefore, changed its organization to admit Associate Members as well as Members, and, at a late stage in our development, the interested public was admitted to full membership.

Of late we have seen the growth of a tendency toward specialization in all professions, and this has resulted in the organization of new associations and societies which are devoting their efforts to such problems as the prevention and control of tuberculosis, child hygiene, mental diseases, social diseases, etc. The influence of these groups has been felt even in the most isolated rural sections of our country, and the value of the work which they are performing is well-known to all. Each organization has its special appeal, and has a closer point of contact with the laity than our Association can ever hope to obtain. There is need of groups of this character to keep the public generally aroused and interested in the conservation of human life, but there is equal need of an association which shall consist primarily of men and women who have chosen public health as their life profession. To perform our work with the greatest credit to ourselves, and with the greatest advantage to those whom we serve, we must maintain some degree of relation with those who manifest sufficient interest in our work to be willing to support our Association, and to meet with us from time to time and to participate in the discussion of our problems. We therefore recommend the reëstablishment of an Associate Membership in the Association for the laity. On the other hand, we believe that there is an opportunity at this time to group together in a Fellowship of the Association, those who have chosen public health as their primary occupation. The lawyers, the doctors, and the engineers have a well-recognized professional standing, but, when a newly elected mayor is called upon to select a health officer for his community, he rarely considers, as one of the re-

quirements for his candidate, the specification that the man must be recognized as a doctor of preventive medicine. Sometimes, he picks out his family physician; usually he selects an individual who has a certificate which permits him to practice curative medicine, for which work he may or may not have qualifications. The mayor should not be satisfied with such a choice; he should be in search of one who is qualified to practice preventive medicine; and from what list is he to choose? We have no established profession. Your Committee feels that the Association can take the lead in establishing ourselves professionally by providing in our membership for different grades of constituents, the highest to be that of Fellows. It should be an honor to be a Fellow of this Association; it should mean that the individual is well qualified to assume the responsibilities of his profession. There is no intention of limiting Fellowship to the health officers, or even to those who may be associated with the health officer in his official work, such as sanitary engineers, laboratory men, child hygienists, etc. It is intended that Fellowship should be extended to all professional health workers of standing, whether employed by public or private agencies, or in independent private practice. Many of our best health officers have gone into industrial plants to develop this important angle of health work. Others are conducting departments of health in our large insurance companies, in our foundations, newspapers, universities, and elsewhere. Certainly these gentlemen are just as truly employed as professional health workers as are the health commissioners of our large states and municipalities. There should be no distinction made in this direction, and Fellowship should be open to them all. It is felt that the younger men in our profession should serve a sort of apprenticeship as Members of the Association before their names may be considered for advancement to Fellowship. In fact, all new constituents should be Members at least two years, and then, after proper application is made and the candidate is sponsored by two Fellows of the section in which affiliation is desired, the qualifications of the prospective Fellow may be examined and scrutinized. If, in the judgment of the Section Fellows, the individual has attained sufficient distinction in the profession, his application will be forwarded to the Governing Council of the Association for final approval or disapproval.

In order to start the operation of the new plan, it is necessary to provide for a nucleus of our Fellowship, and with this in view, the Committee has recommended that the Governing Council and various Section Councils constitute the first group. They in turn will give immediate consideration to a list which has been prepared containing the name of every individual who has been a Member in good standing in the Association during the past five years. There are approximately 1,000 names on the list and, after reviewing this material, the Governing Council has found that about one-half of this number should be admitted immediately to Fellowship. This does not mean that there are not others who should be granted Fellowship at the earliest possible opportunity. This is merely a method of obtaining a starting point, and those whose names are favorably passed upon constitute solely that group with whom the Section Officers or the members of the Governing Council are personally acquainted. An effort should be made to consider at the earliest opportunity, the name of every health worker who has been in the Association for more than two years.

Provision is made in the By-laws for the publication of the names of all prospective Fellows. This will enable every Member of the Association to carefully scrutinize the list of candidates, and raise objections in case he has any feeling that the candidate should not be admitted. The final vote will be taken by the Governing Council, and at least three-fourths of the votes may be cast in favor of the

individual before he can be admitted to Fellowship.

It is felt that each constituent of the Association should have his home Section, and that his power of voting should be confined to this Section. There is nothing, however, which will prevent his giving papers when invited, at the meeting of any other Section, and he may participate in discussions, serve on committees, except in the capacity of chairman. He may, when he desires, transfer his affiliation from one section to another.

It is never pleasant to speak of a raise in dues. The Members of the American Public Health Association have paid $5.00 a year from the time of our organization, over fifty years ago. The Association has always been in a bad position financially and has virtually lived from hand to mouth. It is certainly worth more than $5.00 a year to all who are engaged actively in public-health work, and its value to the individual will be greatly increased under the proposed plan of reorganization. Surely, we can all find in our annual family budget some small expenditure which could be diverted more profitably to the support of this Association; $5.00 which we are accustomed to spending for some trivial item or service with which we could well dispense. Furthermore, as we develop an appreciation of our profession on the part of the public there will follow an increase of compensation for health workers, a more secure tenure of office, and a tendency to minimize the political aspects of the job which have been so familiar to us all in years gone by.

Through the continuation of the work of the Committee on Municipal Health Department Practice, of which Professor Winslow is chairman, and with the expansion of a study of this character to include state health departments and some of the smaller municipal health departments, there may be brought about a condition whereby there will exist a continuous local pressure which will demand the maintenance of a high-grade health organization in each political subdivision. Once the public can be made to see the value of an "A" grade department, instead of a "C" grade organization, there will be no danger of political influence interfering with budgets or the activities and policies of a local health organization. The work which can be done along this line is quite comparable to the splendid results which have been achieved by the American College of Surgeons in endeavoring to raise the standards of hospitals throughout the country, and the similar work undertaken by the American Medical Association and others in eliminating from the field the undesirable schools for medical education. Each and every one of us as a health official, if we take our profession seriously as we should, will be rewarded many times over for the additional expense which we assume in connection with furthering the interest of our Association. Please let it be understood also that what we have paid in the past has hardly sufficed to offset the publication of the JOURNAL, which is received by each and every one of us. Had it not been for the continued support of corporations and individuals who are interested in our work, and who have joined our Association as sustaining members, we could never have advanced as far as we have, and made the contributions which are affecting our own local problems. During the past year the Metropolitan Life Insurance Company has appropriated some $30,000.00 to our Committee on Municipal Health Department Practice. Let us in the future increase not only our financial support of the Association; but, what is far more important, let each individual in spirit and effort become a booster for the organization.

The complete Report of the Committee on Reorganization is divided into four parts:

Part 1 refers to changes in the Constitution; it provides for a smaller num-

ber of Councilors elected at large, and a correspondingly larger number serving as representatives of the various Sections. It is provided that the section officers shall constitute the section representatives. The purpose of this is to bring about a closer working relationship between the Sections and the central governing body of the Association. Changes in the Constitution must be acted upon at a general meeting of the Association, and were therefore officially adopted at the first general meeting of the Cleveland session.

[In order to avoid duplication, the reader is referred to page 992 of this JOURNAL where will be found the revised Constitution and By-laws of the Association. The Constitutional amendments were limited to Article III.—EDITOR.]

In part 2 are incorporated the proposed amendments to the By-laws. These have been discussed above. They were approved by the Governing Council as provided for by our Constitution, and the unanimous vote at a general meeting expressed the confidence of the membership in the previous action which had been taken by the Councilors.

[The amendments referred to will be found on page 993 of this JOURNAL, Article I of the revised By-laws.—EDITOR.]

Parts 3 and 4 of the report are of great importance, and outline certain policies of our program which the Committee feels should form a basis of all future activities. The entire report has been carefully considered and a few minor corrections made by the Governing Council, and final ratification was obtained and the report now stands as an official document representing the sentiment of the Members of the Association.

PART III

SCIENTIFIC SESSIONS AND SECTIONS

Many difficulties of the Association are due to hasty action taken at the annual meetings for want of time; to short tenure of office in sections with resulting lack of continuity of work; to inadequate regulations of voting power, and to insufficient linking up of section policies with those of the Governing Council. The Committee on Reorganization therefore recommends the following remedies:

A. Tenure of Office of sections should not be limited to one year. In particular, capable section secretaries should be reëlected as often as they will consent to serve. Vice-chairmen should be selected with a view to later promotion to the chairmanship of the section.

B. Instruction—Section officers should be informed of their duties by the Association Secretary through carefully prepared standard instructions.

C. Nominations—In the interest of careful selection of officers, nominating committees should be appointed in advance of the annual meeting. Names endorsed by ten Fellows must be added to the ballot if submitted fifteen days in advance of a meeting. Nominations may not be made from the floor of the meetings.

D. Annual Meeting Congestion—As many section functions as possible should be carried out before the busy annual meeting time; e. g., the preparation of committee lists by section chairmen for approval of the Section Council. Similarly, annual meeting resolutions should be handed in as early as possible.

E. Resolutions — The Governing Council should consider resolutions upon recommendation of the Resolutions Committee. In order to ensure adequate consideration, the Governing Council should continue the custom begun last year of holding a meeting each day of the convention. Manifestly, however, *no final action on any resolution can be assured unless it is in the hands of the Governing Council at least twenty-four hours before the final meeting of the Governing Council.*

F. Model Section Constitution—A model section constitution has been prepared for the consideration of the Governing Council incorporating among others most of the remedies outlined above. The proposed model constitution is based upon the deliberations of section representatives at two annual meetings, and has been very slightly modified by

the Sub-Committee on Scientific Sessions of the Reorganization Committee.

PART IV

INTER-CONVENTION ACTIVITIES

The following recommendations are made subject to the ability of the Association to secure the necessary additional funds required:

A. General Objectives—The objectives of the Association should be the preparation, study, standardization and presentation of scientific public-health procedures, the best method by which such knowledge can be given to the public, and the expression to the public of professional opinion in regard to such procedures.

B. Training Health Workers—The Association should be prepared in so far as its interests and resources allow, to coöperate with the United States Public Health Service, Medical Corps of the United States Army and Navy, and other public-health agencies in the training of field workers in the principles and practices applied in the field of public health.

C. Information File—It is recommended that there be maintained at the central office of the Association such records as are obtainable and can be kept current with regard to the organization, expenses, procedures and results of public-health practice in organized health departments in countries represented in our membership.

D. Public Policy, Legislation, Etc.—It is recommended that the Association authorize the Executive Board to act on behalf of the Association in urgent and immediate matters of public policy after an expression of judgment by the Governing Council, and in conformity therewith.

E. Affiliated State Societies—It is recommended that a special committee be empowered to confer with the National Health Council or other bodies, such committee to report back to the Governing Council upon the question of whether the development and coördination of local societies, organized primarily for mobilizing popular support for public-health work, can best be carried out by the American Public Health Association or by the National Health Council or by some other agency.

F. Sections—It is recommended that all the fundamental functional divisions of public-health practice be represented in the sections and other activities of the Association.

G. Journal—It is recommended that the policy of the JOURNAL shall be governed by the principles laid down in Resolution A. A copy of this resolution is to be transmitted to the Advisory Editorial Board of the JOURNAL with a request to advise the Executive Board of the Association of the detailed suggestions which it deems desirable.

H. Finance—In order to carry out the plans outlined above, every effort should be made to increase the resources furnished by Sustaining Memberships, and an attempt should be made also to secure special support for such activities from foundations interested in the support of public-health.

Committee on Reorganization: Dr. Henry F. Vaughan, General Chairman.

Sub-Committee on Association Government:

Dr. Henry F. Vaughan, *Chairman*
Dr. L. I. Harris
Dr. E. C. Levy
Maj. A. Parker Hitchens
Dr. W. S. Rankin

Sub-Committee on Scientific Sessions:

Dr. Walter Brown, *Chairman*
Dr. George Ruhland
Dr. Roger G. Perkins
Dr. J. W. S. McCullough
Dr. R. M. Olin

Sub-Committee on Inter-Convention Activities:

Dr. Haven Emerson, *Chairman*
Dr. L. I. Harris
Dr. C. V. Craster
Prof. C.-E. A. Winslow
Dr. F. X. Mahoney
Dr. F. G. Curtis

CONSTITUTION AND BY-LAWS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

AS AMENDED BY THE GOVERNING COUNCIL AT THE FIFTY-FIRST ANNUAL MEETING, CLEVELAND, OHIO, OCTOBER 16-19, 1922

ARTICLE I

NAME

The name of this Association, incorporated under the laws of Massachusetts, is the American Public Health Association.

ARTICLE II

OBJECT

The object of this Association is to protect and promote public and personal health.

ARTICLE III

GOVERNING COUNCIL

A. *Composition:* There shall be a Governing Council consisting of:

1. The officers of the Association.

2. Thirty members of the Council, to be elected with due regard to geographical and membership considerations, by and from the Fellowship of the Association, for three-year terms, one-third retiring each year.

[At the 1922 Annual Meeting, thirty new members shall be elected; ten for one year terms, ten for two year terms, and ten for three year terms.]

If one of these members is elected a Section Chairman, Vice-Chairman, or Secretary, a new Councilor to fill such vacancy shall be elected by the Association.

3. The Chairman, Vice-Chairman and Secretary of each Section.

4. A representative to be appointed by the governing body of each affiliated state health society to serve for one year on the Governing Council.

B. *Terms:* Terms of Councilors shall begin at the end of the annual meeting when elected, and shall terminate at the end of the annual meeting at expiration of term; provided that Councilors shall have the right to attend meetings of the Council in an advisory capacity as soon as elected.

C. *Reëlection:* After two consecutive terms, an elective Councilor shall be ineligible for reëlection to the Council during one Association year.

D. *The Officers* of the Association shall be the officers of the Council.

E. *Functions:* The functions of the Council shall be:

1. To establish policies for the Association and for the guidance of the Executive Board and the officers.

2. To establish Sections of the Association, to combine or discontinue them when necessary, to maintain coördination among them, and to formulate general rules governing the policies of the Sections.

3. To submit to the vote of the Association all resolutions which have received the approval of the Governing Council.

4. To elect Affiliated Societies, Fellows and Honorary Fellows as provided in the By-laws.

5. To elect the Executive Board and the officers of the Association.

6. To receive from the President, on behalf of the Executive Board a report of the meetings, policies and work of the Executive Board; a report from the Executive Secretary concerning the administrative work of the year; and a report from the Treasurer concerning the finances of the Association.

F. *A Quorum* of the Council shall consist of ten Councilors.

G. *Meetings* of the Council shall be called by the Executive Secretary at the request of the President, or at the request in writing of any twelve Councilors. In the latter case, the call to meeting, issued at least twenty days in advance, shall state the purpose of the meeting.

ARTICLE IV

OFFICERS

The officers of this Association shall be a President, three Vice-Presidents, an Executive Secretary, and a Treasurer. The officers shall be nominated and elected by written ballot of the Governing Council. Officers shall serve from the close of the annual meeting when elected, until the close of the next annual meeting, and until their successors are elected and qualified. A majority vote of the Councilors voting shall be required to elect, and if no candidate receives a majority vote on the first ballot, the candidate receiving the smallest number of votes shall be dropped after each ballot in succession until a majority vote is obtained.

ARTICLE V

AMENDMENTS

This Constitution may be amended by a two-thirds vote of the members of the Association present and voting at an annual meeting, provided that the specific amendment to be acted upon is published in the official publication of the Association not less than thirty days prior to the meeting, and provided further that the amendment has received the approval of the Governing Council.

BY-LAWS

ARTICLE I

MEMBERSHIP AND DUES

A. There shall be six classes of constituents who may be elected from the countries now represented in the Association and such other countries as may be admitted. The respective appellations, qualifications for election, and dues shall be as follows:

1. *Fellows:* Only professional health workers of at least two years standing as members of the Association and of established professional standing (whether employed by public or private agencies or in independent private practice) shall be eligible for election as Fellows.

The application for Fellowship shall be sponsored by two Fellows of the section in which affiliation is desired. The application shall then be transmitted through the Executive Secretary to the Section Council, and if approved shall be voted upon by the Governing Council, provided the name of the applicant shall have been officially published at least fifteen days in advance.

[The Governing Council and Section Councils are to serve during the 1922 Annual Meeting as the initial nuclei of Fellowship groups without further nomination or notice, provided furthermore, that the aforesaid requirements of two vouchers from and endorsation of the Section Council and the requirement of fifteen days' notice do not apply to the first group of Fellows elected.]

A Fellow may belong to and vote in only one Section, but such affiliation may be transferred to another Section if approved by vote of a majority of the Council of the latter Section.

The right to vote in the Sections and in the Association shall be limited to the respective Fellows of such groups. The right to hold office or to serve as chairman of a committee shall also be limited to Fellows.

The dues of Fellows shall be $10 per year.

2. *Honorary Fellows:* Honorary Fellows may be elected by the Governing Council for distinguished service in public health. Honorary Fellowship shall not include voting power or payment of dues.

3. *Members:* Persons active in the service of public health may be elected as Members. They may serve on committees, except as chairmen. Dues $5.00 per year.

4. *Associate Members:* Persons interested in public health shall be eligible as Associate Members. They may serve on committees, except as chairmen. Dues $5.00 per year.

5. *Sustaining Members:* Individuals or corporations interested in public health may be elected to Sustaining Membership. Dues $50 or more per year.

6. *Affiliated State Public Health Societies:* State public-health societies, or associations primarily promoted as organizations of professional public-health workers for the same general objects as those of the American Public Health Association, shall be eligible to election as Affiliated Societies. There shall be only one such Affiliated Society admitted from each state. Dues: One Dollar per thousand of annual budget appropriation, the maximum dues per society being one hundred dollars, and the minimum dues ten dollars per year.

A state public-health association applying for affiliation with the American Public Health Association shall send with its application a copy of its constitution, last annual budget, and such other evidences of its qualifications as such state association may desire to submit, or as may be required by the American Public Health Association.

B. *Election.* The election of Fellows (See A1 above), Honorary Fellows and Affiliated Societies shall be by the Governing Council.

The election of Members, Associate Members, and Sustaining Members shall be by a committee appointed by the Executive Board.

Three-fourths of the votes cast shall be requisite for election.

C. *Dues.* Dues are payable annually in advance. All constituents paying dues shall be entitled to receive the AMERICAN JOURNAL OF PUBLIC HEALTH and, or, such other publications as may be designated by the Executive Board, which shall determine the proportion of dues to be devoted to this purpose.

ARTICLE II

EXECUTIVE BOARD

A. *Composition:* There shall be an Executive Board of nine members elected by the Governing Council, six of whom shall be members of the Governing Council, and three of whom shall be the President, Executive Secretary and Treasurer.

B. *The Terms* of the officers as Executive Board members shall be one year each, and the terms of the other members shall be two years each, expiring in rotation, three each year. These terms shall begin at the end of the annual meeting at which elected, and shall continue until the end of the annual meeting at expiration of term, provided that newly elected members of the Board shall have the right to attend meetings as soon as elected, and shall have no vote until installed.

C. *Reëlection:* After two consecutive terms a member of the Executive Board shall be ineligible for reëlection during one Association year. This provision shall not apply to an officer of the Association.

D. *The Officers* of the Association shall be the officers of the Executive Board.

E. *Duties:* The duties of the Executive Board shall be:

1. To direct the administrative work of the Association.

2. To act as trustee of its properties.

3. To procure funds and to authorize budgets for the Association work.

4. In general to carry out the policies of the Governing Council between meetings of the latter.

F. *A Quorum* of the Executive Board shall consist of four Members.

ARTICLE III

MEETINGS OF THE ASSOCIATION

There shall be at least one annual meeting of the Association, held at a place to be selected by the Governing Council. Special meetings of the Association may be called by a majority vote of the Governing Council, the Executive Board, or the Association.

ARTICLE IV

SECTIONS

Sections shall elect their own officers. They shall conduct sessions in coöperation with and under the supervision of the Executive Board. The Constitution and By-laws of Sections and amendments thereto shall be submitted for the approval of the Governing Council, and shall be valid only after such approval.

ARTICLE V

PUBLICATIONS

All publications of the Association and of its Sections shall be issued under the direction of the Executive Board. The Executive Board shall appoint a Managing Editor of the official journal, who may also be the Executive Secretary of the Association. The Executive Secretary shall, with the approval of the Executive Board, appoint an Advisory Editorial Board of not less than five members, to serve at the pleasure of the Executive Board. All papers and reports for the annual meetings are to be accepted with the understanding that they shall be the property of the Association for publication, except as specifically released by the Advisory Editorial Board.

ARTICLE VI

FINANCES

The Executive Secretary shall receive and deposit to the account of the Treasurer all remittances sent to the Association. The Treasurer shall be custodian of investments of the Association and shall disburse funds in accordance with duly authorized vouchers. With the approval of the Executive Board he may establish a drawing account for the Executive Secretary. The Executive Secretary shall send each month to members of the Executive Board a financial summary of receipts and disbursements. Once each month, or oftener if called for, he shall also forward to the Treasurer and President an itemized statement of all expenditures. The Executive Secretary and the Treasurer shall be bonded at the expense of the Association in an amount to be determined by the Executive Board. The books of the Association shall be audited annually by certified public accountants, to be appointed by the Executive Board.

ARTICLE VII

COMMITTEES

Committees of the Association shall be authorized by the Governing Council or the Executive Board. The President shall appoint the members of such committees. Such appointments expire at the next annual meeting, unless otherwise specified.

ARTICLE VIII

AMENDMENTS

These By-Laws may be amended by a majority vote of the total membership of the Governing Council during the annual meeting, provided that twenty-four hours prior written notice thereof has been given. The By-Laws may further be amended by a two-thirds vote of those voting at any meeting of the Governing Council called for the purpose; provided that notice thereof shall have been given at least fifteen days prior to such meeting.

□

Pasteur Centennial.—An urgent request is made by the Library Committee of the New York Academy of Medicine to members and others, to lend Pasteur memorabilia, such as letters, manuscripts, photographs, engravings or pictures of any kind having to do with the life work of Pasteur. These would be used for the Academy Pasteur Celebration, December 27, 1922, to January 10, 1923. All communications should be addressed to Mr. J. S. Browne, Librarian.

✚

Patent Medicines Still After Patents.—In looking over a recent issue of the weekly *Official Gazette of the United States Patent Office,* the applications of 50 medicines for patents were found. These included a couple of kidney medicines, a bladder remedy, a cure for syphilis, liver pills, cure for piles, lung tonics, headache powders and salves, foot powders, cough and bronchial medicines, rheumatism treatments, hair restorers and tonics, cold inhalers, mouth tablets and washes, wound salves and medicines, hand lotions, pyorrhea treatments, indigestion cures, disinfectants, female disorders remedies, cold cream, and numerous skin tonics. There was also a sewer cleansing apparatus. It is needed. (J. A. T.)

SYMPOSIUM ON THE NEXT STEP FOR STATE HEALTH DEPARTMENTS

Read before the Public Health Administration Section of the American Public Health Association at the Fifty-first Annual Meeting, Cleveland, October 16, 1922.

I

EUGENE R. KELLEY, M. D.
State Commissioner of Public Health, Massachusetts

When I was asked to present a paper on the subject of the next step in health work, I accepted without having fully decided in my own mind what I should define as the "next step." On seriously approaching the matter, it is surprising how many subjects in the health field can present good claims to this distinction. Most insistent of all at the present time is the large subject of maternal and infant hygiene. No one can deny the basic importance of this division of the province of hygiene. Its immediate potentialities in life saving doubtless far outweigh those of almost any other of the well-recognized broad divisions of public health. Due to the enactment of federal legislation on the subject, it is receiving far more publicity and attention than any other phase of general hygiene.

It is only a scant four years ago that the problem of venereal disease was for the first time being given general public recognition in this country, and surely no one in this gathering will venture to assert that the venereal disease step has been completed.

Then there is the subject of dental hygiene. I have been deeply impressed as has every sanitarian in the past few years with the significance of this movement. It must be admitted that the proponents of dental hygiene are making their case stronger every year. Aside from necessary corrections of extravagant claims made by some dental hygiene enthusiasts in the past, it is now recognized that many systemic developmental defects as well as much systemic disease can be traced directly back to faulty dental development and diseased dental conditions.

Closely allied to dental hygiene is nutrition. At one time I nearly decided upon nutrition as the most fundamental next step in hygiene. Certainly the subject presents impressive arguments for consideration on the grounds of its prominence and the pressing need for a more intelligent appreciation of its fundamental importance by physicians, dentists, nurses, professional health workers, educators and the general public as well. The dramatic object lessons in malnutrition furnished by European experience during and since the war, and the astounding results of physical examinations by skilled pediatrists of representative groups of American school children, emphasize the importance of nutrition as a health problem. (In certain prosperous rural sections of Massachusetts a pediatrist of the State Department of Public Health found a higher proportion of serious malnutrition among the school children than she had found in two years' work during the war in France among the refugee children.)

The view now practically universally accepted that malnutrition in childhood is one of the strongest factors in the later development of tuberculosis, the increasing economic problem of supplying balanced rations for the average family on the average family income, the wonderful results obtained by skilled supervision of the nutrition of below-par children, are but a few additional testimonies among many as to nutrition's importance in a health program. And how far we as a nation fall short of really intelligent application of the simplest and most rudimentary principles of sound nutrition, only the health worker and domestic science expert remotely

comprehend! But I must check myself or I will soon be devoting the greater portion of the time allotted to me to the consideration of nutrition, after all.

There is another subject which is just coming into at least a fractional recognition of its far-reaching significance by a small proportion of professional health workers, and a still smaller proportion of the general public. This is the subject of mental hygiene. Mental hygiene is still in a nebulous state. Just what the place of mental hygiene will be in the activities of health departments, as this subject becomes more clearly understood and better appreciated, is not yet clear, but that it will yearly loom larger and larger on the horizon of the world of hygiene for a long time to come is unquestionable.

In addition to these subjects just referred to, all of which may be considered as problems in health-work dynamics, there are fascinating problems in health departmental mechanics which deserve consideration as pressing "next steps." For example there are the problem of the full-time health official; the problem of efficient health administration for rural areas; the problem of specialization versus generalization of various groups of technical personnel; the problem of the proper adjustment and relationship of federal, state and local health departments, and the intricate problem of the relationships and relative functions of the health departments and the ever increasing group of voluntary or volunteer health organizations.

These subjects are all of great weight, and call insistently for immediate attention and further development, but I have finally decided that none of them is really the greatest next step that faces American health workers. Or it might be more accurate to say that they are all but different aspects of the great central problem that has always faced health workers, and is daily growing greater—the problem of the diffusion of already well-demonstrated hygienic knowledge in a form easily assimilable by the great mass of our fellow citizens.

Nor is mere transmission of knowledge the whole problem. We must transmit this knowledge along lines and by methods that will be so psychologically convincing and impelling that our fellow citizens will follow the principles of personal hygiene by habit, and after a lapse of time semi-instinctively.

This problem, the problem of "getting it over," is the most serious next step before health administrators, educators, and the voluntary health organizations alike, and it becomes more and more necessary for it to receive adequate appreciation and more adequate allotment of health department funds in proportion as the message of health work becomes more and more individual and involves a greater and greater degree of active coöperation from the individual citizen. It is a much more intricate problem in sociology and mass psychology, as applied to health work, to save ten infant lives by well-known methods of prenatal, natal, postnatal teaching and care than it is to save ten lives by the installation of a safe municipal water supply, although the financial cost of the latter far outweighs the cost of the former. In the latter case the public has already been "sold," to use the advertising men's phrase, on the value of a pure water, and furthermore it requires no initiative on the part of the householder beyond voting for the bond issue and paying his proportionate share of the increased water rates.

The problem of the application of useful health knowledge in the interests of everyone is always a harassing one and cannot be carried out solely by whirlwind publicity methods or freak advertising schemes. The fact that the advanced thinking and pioneer discoveries of one century or one generation become part of the rudimentary instruction or are utilized in the every-day life of the next generation or century is a matter of common knowledge, as the relation between

Galileo's revolutionary doctrine and our second-grade school instruction in geography, or between Franklin's kite and the telephone, bears daily witness. The point is, that we today see so clearly the appalling loss of human life and the perhaps even more appalling loss of human productivity, efficiency and happiness due to the failure on the part of our nation as a whole to follow and carry out relatively simple hygienic principles and practices, that we are no longer content to wait for the slow evolutionary processes of the centuries and the generations to "get our message over," but acknowledge an imperative obligation to anticipate this slow movement of the "mass mind" that usually characterizes the development of the widest possible utilization of discoveries inherently beneficial to the race.

Two general methods of accomplishing the wide diffusion and application of public-health knowledge are naturally coming to the front. They may perhaps be designated as the autocratic and the democratic. One concept of how best to reach all our fellow citizens effectively with the life-lengthening, life-broadening and life-brightening message of modern hygiene is to prod them into routine utilization of its teachings; the other concept is to lead them to it, but to lead them faster than has ever been done before in the world's history.

The autocratic method takes for its basic principle certain indisputable weaknesses of human nature in the mass, and argues that the inertia of the average is always so great that it is hopeless to wait for the mass of our citizens to take the initiative in matters of hygiene. When we consider epidemic disease and great community sanitation problems we see that much of health department development and practice has already followed along autocratic lines.

It is also obvious that this type of procedure offers frequently the quickest road to results. From the doctrine that the end justifies the means, the temptation to advocate compulsory, autocratic methods in infant hygiene or dental hygiene, for instance, is extremely strong, particularly if we allow ourselves to be misled by the superficial analogy between these fields and small-pox or diphtheria control. Moreover, the advocates of "direct action" in health work, can always point out the wonderful fashion in which that system has worked out under military conditions, or in Panama in civil life.

Compulsory health insurance, proposals to apply forcibly negative eugenic procedures, state control of medical practice, all logically come to the front when once the principle of forcing wider observance of hygienic laws by autocratic methods is accepted and advocated. Nevertheless, I believe this principle is basically unsound and that we should strive against the omnipresent tendencies to utilize this method in spreading the gospel of the goddess Hygeia, lest our last state be worse than our first, and we find that we have opened the doors for faddism and for irksome interference by government in family and personal affairs to an extent which even the conceded health advantages cannot justify.

If we reject the mandatory route and are not content to await the slow process of gradual diffusion of health knowledge outward from our research centers, our hospitals, laboratories, healing professions, and health workers of all types, but one thing remains for the health workers of this country to do. It is to devise new, more effective and more fruitful measures for real health education than have ever been dreamed of before. In the past we have made considerable effort in this direction, but there exists a valid scepticism as to the permanency of the results from some of these methods. For instance, it still remains unproved whether the display page and bill board method which can successfully create and maintain in the American public's palate an unquenchable desire for a given brand of chewing gum will work as successfully in arousing an intelligent, continuing in-

terest in the veneral disease problem.

In this field there are certain inherent psychological difficulties that have never been sufficiently reckoned with by us, although we all must recognize their existence. Among these is the instinctive tendency of the adult to ignore completely the so-called involuntary physical mechanism unless it gives symptoms of distress. It is difficult to interest any one who has never felt a single pang of indigestion in the doctrine of the "balanced ration." It is impossible to get the really well person, brimming with the joy of life, definitely interested in any sort of exercise or hygienic procedure *as an end in itself*. Unless the exercise, such as swimming or golf for example, is pleasurable in itself it will never be zealously followed by the average person.

I will frankly confess to considerable skepticism as to how much permanent impress of value our health propaganda makes on all of us adults. Even we ourselves, engaged in health work very seldom match up our practice with our precept. It is almost entirely due to faulty health habits and erroneous dietary tastes established in early life that we do not better measure up to our own knowledge and professions. If this be the case in a group whose whole life interest centers in the advocating of better hygiene, how much more difficult and even unreasonable to expect our fellow citizens to shape their daily existence in accordance with the best hygienic principles—even though we all realize how great are the rewards for so doing. Cornaro, the Venetian, the late Stephen Smith, founder of our association, and John D. Rockefeller, Sr., three notable examples of longevity, unite in attributing their long lives principally to a delicate digestion which necessitated their careful attention to hygienic rules.

I would not be understood to advocate that we should cease to attempt to interest our fellow adult citizens in the possibilities of communal and personal hygiene. Far from it! I feel that we should give them much more heroic doses of information and argument than we have ever done hitherto, on the principle that if we keep at it long enough and earnestly enough, some of it will stick, be taken to heart and acted upon to the great benefit of all. I am trying to make the point that we must not expect too much revolutionary change in the habits, thoughts and prejudices of this group. But there is one group among us where it is possible to a considerable extent to get a response to and an interest in health habits as an end in itself. It is also the group where it is still possible to find an open mind, and unformed or but partially-formed habit paths. This group is of course the school children of America.

Among our child population up to maturity the field is wide open, the facilities for reaching this group *en masse* are already provided, and it is here that we should concentrate our greatest energy, our ablest minds and the most of our available funds. To do this successfully means the evolution of a new type of person who shall bridge the gap between the health worker, particularly the medically and nursing trained health worker, and the professional teacher or pedagogue. I believe the great and spreading interest in physical education offers a hopeful prospect in that this subject as it develops may serve as a natural stepping stone for the furtherance of general hygienic training in childhood. But at all events a new technique must be developed. There must be a closer alignment of interest between the health and educational authorities and among the three great professions of teaching, medicine and nursing, to bring about the greatly-to-be-desired result. In the past too much time has been lost, and too much energy needlessly dissipated in fruitless discussion, even mutual bickering, as to whether health departments or school boards should control medical school inspection.

Medical school inspection, as the term has hitherto been used, has proved a useful and forward step in the guarding of

community health and the checking of exanthemata. It has even served as a basis for furnishing a large amount of excellent but usually totally disregarded advice to parents concerning the physical, and in late years even once in a while concerning the mental shortcomings of their children. But what a weak and incomplete sort of a device our traditional medical school inspection system is, and how insignificant are its results compared to the results that might be achieved from a well balanced nation-wide child hygiene program!

This then is our real next step: to mobilize the medical profession, the nursing profession, the teaching profession, and all their allied groups, the dentists, chemists, domestic science and nutrition experts, in one active interested group whose objective shall be that every American child shall have a fair chance to be well born; shall receive suitable nutriment; shall be trained in sound hygienic habits during infancy and early childhood; shall be adequately safeguarded against avoidable infection; and on passing on to the school period shall be taught proper health habits and the reasons for them; shall be taught simple but scientifically correct hygienic principles in place of the hodge-podge of misinformation, superstition, ignorance, and old wives' tales that were the basic instruction in hygiene of most of us; shall be given opportunity for the correction of incipient physical defects through a wisely-developed system of physical education, supervised play and work; shall be taught what to eat and why; and shall be started right in his emotional and mental life.

If these things are done, many of the problems which most seriously harass us as health administrators will solve themselves and disappear. Nor is this program, ideal as it may sound in many ways, one impossible of achievement or fantastic in scope. It does not involve an excessive additional amount of financing to place it in full operation. In many ways the bulk of the American people today are ready and eager to support the development of such a program. It involves simply a full and honest getting together of the leaders of American education, medicine, nursing, and the other professions interested in the advancement of public health, to make such a program a complete reality within the life of the present generation.

II

W. S. RANKIN, M. D.
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EMPHASIS SHIFTING FROM DISEASE PREVENTION TO HEALTH PROMOTION

The next step for state health departments is to realize that we have reached a time when the emphasis in public-health work is shifting, and will shift much more, from disease prevention to health promotion, and to recognize that such transfer of major interest introduces important changes in the public-health program.

The evidence that there is a rapidly shifting interest from disease prevention to health promotion is abundant and convincing. Witness the thought, time and effort now being devoted to such problems as maternity care, infant clinics, improvement of the health of public school children, including the Health Crusade Movement, the detection and treatment of common defects, school lunches and nutrition work, the development of oral hygiene and dental clinics, the rapid advance of industrial hygiene, and the expansion of the idea and practice of periodic physical examinations of the ap-

parently healthy—all of these activities being concerned more with the positive ideal of health promotion than with the negative and more restricted ideal of disease prevention.

The reasons for this shifting of interest from the negative to the positive field of public health are: first, the diminished and diminishing prevalence of communicable disease, with a corresponding restriction of opportunity for health departments to lower the death-rate and increase longevity through efforts directed to circumscribing infectious foci; second, the enlarged and enlarging appreciation by health departments of the many opportunities to conserve and to advance the general health of the public through efforts directed toward raising the general level of health by the improvement of personal hygiene and the physical status of the average citizen.

IMPORTANT CHANGES IN THE PUBLIC-HEALTH PROGRAM

The important changes which are brought into the public-health program through this transfer of major interest of health departments from prevention to promotion, from disease to health, are: 1. As in the training of a child he is first taught what not to do and then what to do; as in the early moral training of the race under the old Mosaic dispensation, the restrictions of law and ordinances, "thou shalt" and "thou shalt not," were necessary, but passed away with the new dispensation of Him who came to fulfill the law by giving the people a larger vision and a quickened conscience; so in the future of public-health, regulatory legislation will become less and less a factor, and education correspondingly more a factor in vital conservation. 2. Health departments in the future instead of concerning themselves less with that small group of diseases, the communicable diseases, each of which at one time or another endangers a small minority of the population, the susceptible population, will concern themselves more with the entire field of both pathology and physiology as the two are related to the whole population, sick and well alike. 3. Under the old order of disease prevention there was, so to speak, a well defined line of demarcation separating the work of those interested in social medicine from the work of those interested in private practice. Under the new program the aforementioned line of demarcation will disappear, and there will be a blending of the work of health departments and profession. 4. Under the old program the field of activities was restricted and personnel limited as compared with the expansion of the future field and the tremendously enlarged personnel engaged. This enlarged personnel for the future program, because of the qualifications necessary, can be drawn from and supplied by only one group of society, namely, the medical profession. 5. The medical profession, in assuming definite public duties, in adding to the field of private practice the work of social medicine, will and should expect reasonable remuneration from society. 6. Health departments in making up their future budgets will have to consider (a) the particular activities of a public character which may be and should be performed by the rank and file of the profession, and (b) a reasonable piece-work payment for the performance of such duties.

MUTUAL INTERESTS OF PUBLIC AND PROFESSION

The fusion of functions and forces in the work of social and private medicine centers on the realization by the public and profession of the fact that their interests are mutual and not conflicting.

There still exists an all too prevalent feeling, based upon superficial reasoning, that certain health interests of the public are in conflict with some of the business interests of the profession. This feeling

is frequently expressed in public meetings, not only by representative members of the profession but by laymen, in the statement that the medical profession is the only group of society bent upon curtailing its own field of usefulness and thereby diminishing its income. The profession of medicine may eliminate certain diseases, but in doing so it does not restrict, but on the contrary expands, its own field of service and increases its financial rewards.

For example, let us note that the medical profession, through its discoveries and their application, has eliminated from the list of diseases typhus fever, and, practically speaking, yellow fever; however, in doing this it has only saved the victims of an acute, short illness for other diseases, and more especially for the more chronic, long continued, professionally more remunerative, degenerative diseases of later life. Again, but for the work of the medical profession smallpox would now be causing about 200,000 deaths and endangering seriously the lives of 1,000,000 people each year in the United States. Instead of this, those who would have had that disease, and those who would have died from it, have other diseases, many of which are more lasting in their duration and more remunerative for the profession. And further, if, in the course of the next ten, twenty or thirty years, the great death-rate of infancy could be all but eliminated, then many of the babies saved would live, instead of two years, fifty, sixty or seventy years, would have babies themselves, and suffer many and more chronic diseases, with a great increase in their use and remuneration of doctors. The old axiom "Don't kill the goose that lays the golden egg" professionally applied, is "Don't permit to die, within a brief span of years and with an acute disease, the potential patient for a period of sixty years who will make many professional calls and finally settle a bill for professional services for the treatment of some chronic disease of old age." No, the profession does not suffer, not even financially, in the elimination of the acute fatal diseases; it gains tremendously, and society gains still more.

If we raise our sights and look yet farther ahead, even beyond the field of the pathological, we may easily envisage the time when medicine will extend its beneficent services from that small percentage of the population that we call sick, to include the whole population, the sick and the well, relieving and curing the sick and raising the well to a higher level of physical vigor and efficiency. Indeed, this extension from the limited field of pathology to the immense field of physiology is already under way with the dentist and with the pediatrician in the more enlightened centers of population. The field of medicine will never shrink; it will continually expand to the advantage of the profession, both in opportunities for service and reward, and immensely more to the advantage of the public.

Fortunately, the old viewpoint of professional suicide in the service of humanity is gradually disappearing as the profession sees more and more, not the conflicting interests, the existence of which is extremely doubtful, of public and profession, but the larger mutual interests, the existence of which is perfectly clear. Elsewhere the writer has pointed out in some little detail the mutual interests of the profession and the public, and will here recapitulate very briefly.(See *Journal American Medical Association* for July 22, 1922, page 281.) The field of maternity, including the pregnancy, labor and puerperal state of 2,750,000 women annually in this country, can easily be shown to be supplied with not more than one-third, probably not more than one-fifth, of the medical science and medical service which both the public and professional interest demands. The field of infancy and childhood, with a constant supply of 5,000,000 infants under two years of age needing and entitled to a certain amount of medical supervision, with 1,500,000 cases annually of well marked diarrhea and enteritis, with

700,000 cases annually of the four commoner communicable diseases, with 1,000,000 public school children retarded and retarding their classes on account of diseased tonsils and adenoids, with 4,000,000 public school children with visual defects needing supervision and correction, and 15,000,000 school children needing dental treatment, furnishes a field of practice again not more than one-third or one-fifth supplied with the medical services which the interests of both the profession and the public require. Passing into the field of adolescence, we come upon the diseases of the pre-marital state, the venereal diseases (2,000,000 fresh cases each year added to the uncured cases of many previous years,) a disease problem that largely sustains three specialties—genitourinary surgery, gynecology and skin diseases—and then liberally contributes to the general run of practice. Here again the occupied field of medicine is not over one-third, probably not over one-fifth or one-sixth, as large as that which is unoccupied, and which calls insistently in the interest of both the public and profession for more medical science. Passing to adult life, securely resting our conclusions on the investigations and findings of the Life Extension Institute, we have a field of adult pathology but one-fifth provided for. And so we see that the field of opportunity and service is white unto the harvest, but the laborers are few. The profession needs the work; society needs it more. The opportunities of the profession, in both terms of service and financial reward, harmonize with the needs of society, and the interests of the public and the profession are blended inseparably.

PROGRAM OF RELATED ACTIVITIES BASED ON MUTUAL INTERESTS

The first step in any satisfactory program of related activities on the part of the public and the profession is a mutual understanding as to what part of such a program should rest upon the profession, and what part should rest upon the public. In considering related responsibilities and duties, our task is simplified if we will think of such responsibilities and duties under the main classifications of public-health functions; namely, alministrative, educative and executive.

Administrative Functions

The administrative functions may be subdivided into three: finance, control and direction.

The financing of public-health work is a responsibility resting entirely upon the public for the reason that the work is for public betterment.

The control of public-health work should be vested in a commission or board that is non-partisan, removed as far as possible from political interference and turn-overs, and with its stability protected through the appointment or election of its members in such a way that there is no sudden or complete change in personnel. This last desideratum is provided for by organizing the initial commission or board of members with varying periods of service, some two, some four and some six years, and providing that their successors be appointed or elected for definite periods of service, say four, six or eight years. In this way we obtain a controlling organization which is subject to molecular death, undergoing now and then a replacement of individual members, but never suffering molar death, a sudden and complete loss of life with an entirely new board as its successor. Stability of organization insures far-sighted intsead of temporary policies, continuity of purpose in place of frequent changes of program. In this controlling body should be represented both the public and the professional interests, with the former slightly in the majority, on account of the principle of public control of public expenditures. However, it is important that the profession be well repre-

sented in the controlling body in order to provide the professional viewpoint and experience, and to harmonize the professional and public activities in a program of mutual interests.

The direction of public-health administration must naturally be centered in a single executive, who should be chosen by, and under the control of the administrative body. The director, that is, the executive of the controlling body, should be a graduate of medicine, because (1) public-health work is dependent upon such knowledge as is acquired only in a course leading to the degree of doctor of medicine or doctor of public health, and (2) it is necessary for the executive to understand the professional viewpoint and to be able to work in cordial coöperation with organized medicine.

Educative Functions

The educative functions include all activities directed toward raising the general level of intelligence with respect to medical science, increasing popular appreciation of the benefits of applied medical science, and so enlarging the usefulness of medical practice. Briefly, we may classify the educative work that is necessary in developing the mutual interests of the public and the profession under three headings: (1) education by the written word, (2) education by the spoken word, and (3) education by demonstration.

Education by the written word has been fairly well developed and extensively applied. It supplies central agencies, either public, social or philanthropic, with 90 per cent or more of their opportunities for advancing public intelligence and appreciation with respect to the value of medical science and the use of the medical profession. It affords the principal available means through which an agency, limited in personnel and money, may reach the largest possible population. This sort of educational work should be continued and expanded in every possible way, but its limitations must be kept in mind. Its limitations are: (a) that it does not reach a large proportion of the population, the non-reading public, and (b) like the barrage in battle, fired from some distant point, its effect is scattered, preparatory, incomplete, and dependent for full effect upon being followed by other more intensive educational activities; just as the barrage in battle is more or less useless unless followed by the hand to hand work of the infantry.

Education by the spoken word has lagged far behind education by the written word. In fact, as a potential agency in developing the interests of both public and profession it is in its infancy. Moreover, education by the spoken word is the only education that reaches the non-reading public; it is education that adds to information inspiration to the dead letter, the spirit that gives it life; it is education that supplements the influence of the Bible with that of the preacher. The spoken word may be applied in two ways: (a) by addressing groups collectively, and (b) by meeting individuals at definite times in regular, organized conferences.

Education by demonstration is one of the most useful and, it is safe to say, necessary means for emphasizing in the public mind the importance of a disease or defect, and for popularizing certain forms of treatment. The purpose of demonstration of treatment must be kept clearly in mind, namely, that it is not intended as a precedent to be extended to include the treatment, by the state, of diseases in general; but that it seeks only the development of popular appreciation of certain forms of treatment to the point that the people may be influenced to make greater use of the medical profession in securing the needed forms of treatment. Education by demonstration is called for under two conditions: (1) to popularize a new treatment of great significance to the public welfare, as in establishing the wide general use of a recently discovered potent vaccine, such as typhoid vaccine, or the use of toxin-antitoxin; (2) to

develop a general demand for the treatment of some great disease surplus, such as venereal diseases, diseased tonsils and adenoids, defects of teeth and gums and, in certain sections of the country, malaria, hookworm disease and trachoma.

The part of the medical profession in the educative functions of public-health work is: (1) to assume the responsibility for advancing through their local societies the education of people collectively, and in organized conferences or clinics (the possibilities of such an educational program, organized and carried out by county medical societies, have been pointed out in some detail by the writer in the article appearing in the *Journal of the American Medical Association*, July 22, 1922, page 281); (2) to take the initiative, and thereby place themselves in a creditable position with the public, in organizing and directing the local campaigns of treatment for the purpose of demonstration and, further, themselves to demonstrate the treatment, not as a charity, but for reasonable remuneration by the county or town in which the treatment campaign is carried on.

Executive Functions

The executive functions in a well organized plan of public-health work include: (a) securing from physicians, midwives, undertakers and parents information as to the causes of death, the occurrences of births, and the appearance of outbreaks of communicable diseases; (b) enforcing fully and without fear or favor the laws and the rules and regulations governing quarantine; (c) securing the adoption and enforcement of laws, rules and regulations necessary to protect and insure adequate and safe public water supplies; (d) operating public laboratories to assist the profession in diagnosis, to assist the profession in the treatment of diseases requiring biological products, expensive to their patients, comparatively speaking, when not supplied at public expense, and to make analyses of samples of public water supplies to determine their purity and safeguard their use; (e) providing for and supervising the operation of certain public institutions for the care and treatment of chronic and incurable diseases which impose an economic burden on the average family in excess of its means and which can be borne effectively only by united community effort; (f) maintaining an inspection service that shall insure to a reasonable extent the sanitary maintenance of public institutions, hotels and cafes; (g) organizing, through the medical profession, demonstration treatment campaigns and clinics which are necessary in dealing with major problems of disease and defects, important to the public and profession alike, to the end that such problems may be sufficiently impressed upon the lay mind to insure their more adequate treatment by the profession; (h) providing, through an understanding with and organization of local medical societies, for the treatment of the indigent sick at the expense of the public rather than as a charity to be onerously and inadequately borne by the profession.

The part of the medical profession in the executive functions of public-health work is: (1) to furnish such information to the public or its agent as is necessary for the public to know its vital condition and to protect itself against unnecessary disease; (2) to take advantage of the provisions of the public in the way of laboratories for more accurate diagnosis, and for less expensive treatment where otherwise expensive biological products would be called for; (3) to assume the initiative and responsibility in the organization of such local treatment measures as are needed in the interest of both the profession and the public, (a) for supplying more adequate treatment at the public's expense instead of the profession's expense for the needy, and (b) for developing such demonstration treatment campaigns as are needed and necessary to

popularize the treatment of certain conditions of exceptional public importance.

CONCLUSIONS

The next step for state health departments is the development of a program of related activities on the part of public-health agencies and the organized medical profession built up about the mutual interests of both parties concerned. In such a program the writer has sought to suggest only briefly the more important phases of the relationship to be assumed by the public and profession. Such a program is certainly subject to important alterations in order to adapt it to varying local conditions and to conform it to accumulated experience; but the principle involved in this paper is that the time is now here when the public and the profession must solidly unite in their attack upon disease, both that which is present and that which is anticipated, and when organized medicine should and will take the same active interest in social practice as the individual member of the profession has heretofore taken in dealing with the problems of private practice.

III

EDWARD MARTIN, M. D.
State Commissioner of Health, Harrisburg, Pa.

Broadly speaking, a health department's next step is the democratization of its functions. Our knowledge has outrun its large application. In so far as transmissible diseases and the sanitarian are concerned, the next step in communal health should be a concentration of effort against those infections attended by the largest morbidity and mortality, and which laboratory and clinic have shown to be completely controllable.

We know the cause of diphtheria and can safely, simply and effectively prevent and cure it. Today's statistics bearing on its incidence and case fatality are creditable neither to the health officer nor the doctor.

In Pennsylvania, the issuing of free antitoxin to the doctors, and the enrollment of municipalities, the schools, the press, the church, business, labor, welfare organizations and the women in an educational campaign was followed by a drop in mortality which may have been incidental, but which has been partly maintained.

To every doctor reporting a diphtheria death is sent a letter with a questionnaire; answered, with few exceptions, cordially, fully and helpfully. Some hundreds of replies show that in the fatal cases there was an average of over four days in securing medical service, and an average of more than 24 hours in making the diagnosis. The delay was not marked in the nasal cases. Control replies from 200 doctors whose cases recovered, showed that there was an average delay of one day in securing medical help, and that less than 11 per cent failed to make the diagnosis on the first day.

A prompt calling of the doctor, nasal cultures, an immediate full dosage of antitoxin intramuscularly on reasonable suspicion, are the means of lessening mortality. To accomplish this a sanitarian must have the active and coördinated support of municipalities, the press, schools, churches, business, labor, welfare organizations and, underlying and driving each and every one of these, women.

Considering some of the individual factors upon which the sanitarian depends in his wholesale guarding of health; without the full coöperation of the medical profession, the activity of any health department is largely unavailing. This cordial coöperation can be secured, provided the department confines its efforts to prevention, and scrupulously

avoids state medicine. The Pennsylvania department treats the tuberculous and venereally infected who are unable to pay, only because these are transmissible diseases. When the profession will take over, and make each clinic an active center of control, rather than a place to which those may come who so choose, the state will gladly transfer these clinics.

I spoke of the full coöperation of the doctors—this does not mean all of them. The profession of medicine is made up of three groups: an upper third—leaders in research, thought and helpful action, self immolating altruists, the flower of civilization; a middle third—strong, able, clear minded men, who follow the lead of the upper third; and a lower third—prejudiced, ignorant, self centered, whose approbation is undesirable. The sanitarian must have the upper two thirds with him; the lower third against him.

The nurses may be roughly classed as are the doctors: upper, middle and lower thirds. The upper and middle thirds are priceless boons to the community; the lower third almost as pernicious as the corresponding class of doctors. A health department cannot successfully administer without the public-health nurse, who, if wisely chosen, will respect the rights of the doctor and add to his honor and influence. If she be of the lower third she will embitter, and justly so, the best men of the profession.

As to syphilis, the most universal, deadly, and crippling of all transmissible diseases, we know its cause and how, promptly, safely and surely it may be made non-transmissible; and, if treated in the early stages, probably cured. At present it remains the curse of civilization. In Pennsylvania there are clear signs of a waning incidence, due in part to activities stimulated by the health department, made possible by monies contributed by the United States and Pennsylvania ($270,000 in the last two years), and made fruitful by empowering legislation, the help of the medical profession, of the Roman Catholic Church and municipalities and welfare organizations. To the poor, medicine and treatment are free. Those able to pay are referred to the hospitals which make a moderate charge, or to competent physicians who have fixed their minimum fees.

There are 51 state clinics under specially trained physicians, assisted by 151 public-health nurses, whose special function, aside from helping in the clinic, is locating and bringing to these centers the foci from which those coming for treatment acquired their infection. There are 156 coöperating clinics. There are 390 state troopers who have been made health officers and who, when gentler means fail, bring probable or real menaces to the clinics, establish and maintain quarantine, and conduct health raids; this particularly in municipalities where such raids by local officials have proved tragic farces and means of disseminating disease. Those taken in our raids are promptly examined; if found infected are sequestered until they are no longer health menaces; nor can habeas corpus release them until such time.

The Roman Catholic Church is now sequestering and treating more than 400 of the public-health menaces in their Houses of the Good Shepherd. Municipalities and hospitals have made provision for upward of 600 patients.

Quarantine for venereal infection has been imposed within the last year in 2,500 cases. The number of foci of infection named by the patients and brought under control was in 1921, for all forms of venereal disease, 1,784; in 1922, 3,729. The visits to the clinics in 1922 number 104,551. There were no accidents in intravenous injections.

Since the work of eradication requires many doctors, and since the policy of the state is to place the responsibility of control upon communities, there have been established in our largest and best conducted clinics schools of instruction, with an enrollment of 189 doctors.

A lessened incidence of the disease is suggested by the fact that in one county, with a population of 400,000, but 11 recent cases of syphilis were found in five months. One hundred and twenty-five of the most active physicians in the county were questioned, as were the clinics and hospitals. Five of these 11 contracted the disease in another state. Neisserian infections in the actively transmissible stage are treated and quarantined when needful. The foci of infection are found and controlled.

As for syphilis, since practically all exhibiting primary or early secondary lesions consult a doctor, and since in from hours to days their infections may be made non-transmissible, a complete control of the disease can be accomplished by the medical profession. Supporting it must be the state, the press, the schools, the churches, business, labor and welfare organizations; correlated, specifically guided, and kept unceasingly active.

As a tribute to my distinguished predecessor in office, Dr. Samuel Dixon, who formulated the Pennsylvania campaign against tuberculosis and put it into practical application, the death-rate from this infection has fallen more markedly than has that of any other of the transmissible diseases. His staff of regulars was supported by the press, schools, doctors and by the antituberculosis society—all driven to action by the women.

Bearing on typhoid fever, the sanitarian, if tempted to look back over a conquered field, must recall the difficult, and as yet unsolved problems of prompt diagnosis and the detection of carriers; both bearing directly upon the question of control. The next step in this direction has apparently been taken by Laird and Conover of the Pennsylvania State Laboratory. They found by placing together in a test tube the serum of the rabbit immunized to the typhoid bacillus and the clear solution or autolysate of the feces or urine from a person suffering with typhoid fever, a distinct, specific precipitation occurs. The immune rabbit's serum throws out of solution, so that they may be observed, the chemicals of which the typhoid bacilli are composed.

The autolysate-precipitin reaction has, so far, permitted the diagnosis of typhoid from the third day of the fever, and has remained positive in the majority of cases up to the fifty-sixth day of the disease. It has shown negative toward the autolysates of the other potentially pathogenic intestinal organisms, and with the feces and urine of all normal individuals. It is positive not only in 100 per cent of typhoid, but reacts to the whole typhoid group, including the Para A and B, and is sensitive to the autolysates of as few as 100 bacilli per cubic centimeter. In comparison to the inadequacy of the older immunologic and bacteriologic methods of diagnosis and control of typhoid cases, the new test marks with its attributes of greater surety and delicacy another long step toward the eradication of typhoid fever.

These preliminary remarks on the most crippling and deadly of the transmissible diseases are meant to indicate that the sanitarian's efforts are of little avail unless he has, not merely the approval, but the active help of the people—all of them or nearly all. They are ready, willing, eager to help, but must be shown why, when, where and how. They must be led, not driven. In their beginnings they must be helped by the trained health man, the public-health nurse, the social worker, equipment, biological products and antiseptics.

The people of a state are organized into large groups—the municipalities, the schools, the churches, business, labor, welfare, charity; ably led, as a rule. The immediate approach to the membership of these organizations is through the leaders. Specifically the next step which should be taken by a health department is the utilization of this great power toward the solution of that problem which most directly bears on individual happiness and

national prosperity, the problem of infant morbidity and mortality, representing a human wastage greater than that from all the transmissible diseases combined. This is a problem which makes its direct and compelling appeal to that new force upon which the sanitarian can most confidently rely—the force of organized womanhood. The first large effective action toward lessening infant mortality and morbidity, and sequential childhood, adolescent and maturity disability is prompt and complete registration; thereafter supervision over the neonatal period, and periodic examination of well babies.

Pennsylvania's infant mortality, meaning deaths under one year, was 87 per 1,000 in 1921; 43 per cent of these died during their first month. The fact that 10 years ago a child at birth had the same chance of living a year as had a man of 75, and that today he has the same chance as has a man of 70, is not a reason for content with progress made.

There have been established in Pennsylvania 460 well-baby centers; usually with the complete approval of the doctors, managed by them, paid for by the community and of growing efficiency and usefulness, these centers have been made possible by the women, and particularly by those of the Red Cross and antituberculosis societies.

Support by the organizations named, but always and particularly by the women, has enabled the Division of Dental Health to secure for 50,000 school children skilled and continued dental supervision, paid for by the communities or local school boards, with a rapidly extending acceptance of this obligation.

The same potential factors have in three years enabled one state sanitarian to insure complete protection against milk borne infections for 800,000 people, this without the support of a state law.

The state, including under this term municipalities, must make adequate appropriations to insure a trained corps of physicians, nurses and social-service workers; must pass enforcing legislation; and, incidentally, should cordially and gratefully accept the help given by the United States both in money, publications and personnel. The schools must establish a graded course in personal hygiene and public health, given the same weight in promotion and graduation as is any other major subject; this in all the schools and colleges. Intensive courses must be given in the normal schools, practical and theoretical, and each and all of these schools must be models in sanitation. Still more intensive courses must be given in the undergraduate medical schools; easily insured by making the subject of public health a major one in state board examinations. The church should have frequent sermons on health, based on material furnished by the health department. This seems fitting since 25 of Christ's 35 miracles bore on health. Particularly must each church insist that its own people be given prenatal care, supervision of maternity, and that the mothers nurse their babies, and take them to health centers where they have no private doctors. It must be the aim of the church to turn all of its children into the schools at the age of six, sound and with all defects corrected. On the cradle rolls of Pennsylvania churches there are 188,000 children.

Business must insist upon physical examination of applicants for employment, and by a simple method of recording list those who are progressively failing and refer them to a doctor before the final, often irreparable breakdown. Big business must combine with labor to insure prenatal, maternity and neonatal supervision.

An administration of public health comparable in efficiency to our knowledge of the subject, is today more attainable than ever before because the voting woman will throw her whole strength in this direction.

IV

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I am assigned this topic for Illinois. The next step in the various states obviously must be determined primarily by: (1) conditions that are often local in character, and (2) by previous steps taken.

Only after an analysis of existing problems and a study of these in the order of their importance can one clearly arrive at the relative importance and significance of the problems confronting him. Two or more of these may appeal to the state health officer as of equal value, but if he will apply to each the acid test of "which offers the greatest opportunity for the reduction of mortality and for the prevention of morbidity," the answer will often show him clearly which is his next step.

In one state with advanced health work, the next step may be a division of industrial hygiene. In another, the next step may be a full-time county health unit in each county. In a third, the next step may be a drive for venereal disease control.

Last fall after much effort, for the first time in the history of the Illinois Health Department, I was able to get a table of infant mortality under one year by counties, for the year 1920. The data was startling to me. This statistical study revealed:

(a) Twenty-three entire counties, comprising considerably over one-half of the state's population (3,638,858 of the 6,616,098), with infant deaths ranging from 231 down to 100.2 per 1,000 live births reported, the average for the twenty-three counties being 120 infant deaths per 1,000 reported live births. (Table I.)

(b) This also revealed five cities, not in this group of counties, with a total population of over 126,000 and an average infant death-rate of 118.3. (Table II.)

TABLE I

Year 1920

Infant deaths of over 100 for each 1,000 live birth reported.

County.	Population.	Rate.
Alexander	24,044	125.6
Carroll	19,412	108.1
Cook	3,086,370	110.4
Edwards	9,431	102.4
Fayette	26,187	110.4
Ford	16,166	108.2
Franklin	58,908	231.
Henderson	9,772	108.6
Jackson	37,191	108.1
Jefferson	28,480	117.
Jo Daviess	21,917	101.3
Marion	37,621	101.6
Monroe	12,837	113.3
Perry	22,943	113.8
Pope	9,625	111.1
Pulaski	14,629	170.8
Saline	38,773	141.3
Scott	9,489	136.4
Wabash	14,034	100.2
Wayne	22,772	111.1
White	20,081	106.8
Whiteside	36,260	111.
Williamson	61,916	107.9
Total—23 counties	3,638,858	2756.4
Average		120.

TABLE II

Year 1920

Five cities with high infant deaths per 1,000 live births reported.

City.	Population.	Rate.
Champaign	16,051	110.
Galesburg	23,924	91.5
Lincoln	11,933	119.2
Rock Island	35,735	128.5
Joliet	38,638	142.6
Total 5 cities	126,281	591.8
Average		118.3

(c) Nine other entire counties with a total population of 669,550 had an average infant death-rate of 93.4. (Table III.)

TABLE III

Infant deaths of 90 to 100 for each 1,000 live births reported.

County.	Population.	Rate.
Boone	15,322	97.2
Calhoun	8,245	95.7
Lake	75,273	91.4
La Salle	93,069	90.5
Madison	107,773	95.6
Morgan	33,567	90.8
Peoria	112,300	90.8
St. Clair	137,376	94.2
Vermilion	86,583	93.2
Total—9 counties	669,510	839.4
Average		93.4

A still further study of the probable contributing factors to this high infant death-rate revealed:

1. *Birth Registration Incomplete.*—Because Illinois is still outside the Birth Registration Area of the United States Census, it is difficult to get an accurate estimate of the number of infants, the location of these and their needs. Believing some of this high rate was apparent rather than real because births were not well reported, an extensive drive for better reporting of births has been made during the past twelve months which covers the following items:

(1) A letter was sent to each physician and registrar in the state explaining the importance of birth registration, and warning both groups that prosecutions would be resorted to if necessary.

(2) The field force was detailed to make personal calls on the majority of the 1,400 registrars and endeavor to get in all unreported births. This reduced the number of delinquent registrars from a monthly average of 340 in 1920 to 283 in 1921, and to a monthly average of 52 during the first quarter of 1922.

(3) A postal card is sent on the first of each month to each registrar reminding him and urging him to get in his birth (and death) reports by 10th of the month.

(4) Several doctors and registrars were prosecuted for failing to report births.

(5) An attempt was made to stimulate better reporting of births by getting:

(a) Newspapers to publish monthly (gratis) the complete list of births reported in their community;

(b) Coöperation of the Illinois Federation of Women's Clubs by appointing a local committee on births in each community, and instructing the committee members what to do;

(c) Similar coöperation through parent-teachers' associations was secured;

(d) A number of local organizations to put on a house-to-house canvass;

(e) Metropolitan and other insurance companies to have their agents and nurses make a report of each birth in families they visited;

(f) Each teacher in the public and parochial schools to send in a list of all new babies which pupils reported in their respective families within a year.

(6) Engraved certificates of births were mailed to parents of all babies whose births were reported, if complete information was given.

(7) A birth certificate was required as prerequisite for entering a baby or child in the many better baby conferences held throughout Illinois.

(8) Churches, schools and other organizations were urged to devote one day of our annual Health Promotion Week to the subject of birth registration.

(9) Extensive and continuous publicity was carried out for birth registration through the public press, the department *Health News,* weekly press service to the newspapers of the state, special articles to newspapers and films, lectures, etc.

(10) Better coöperation from physicians was sought. Over 30 of the county medical societies passed resolutions agreeing to report all births (and communicable diseases).

The result of the campaign was that the births registered in Illinois jumped from 120,360 in 1920 to 131,299 in 1921. This represents an increase in births of more than 9 per cent over that of 1920, being the largest annual increase ever made and corresponds to a birth-rate of 19.8 per 1,000 of population as compared with 18.4 for 1920 and an average rate of under 18 for the preceding five years.

The actual increase in the number of births reported for 1921 is 10,929, or an average of about 10 births per day more than the daily average for 1920.

The reports up to the time of this writing indicate that 1922 will show a decided improvement on 1921 in birth registration. In fact, the United States Census Office is now making an investigation (test) of completeness of birth registration, and we hope to be admitted to the Registration

Area for Births by the end of the year.

II. *Health Center Survey.*—An investigation of the infant welfare activities of Illinois, outside of Cook county, showed 19 of the 101 counties have health or infant welfare centers or stations, there being a total of 43 of these stations in the 17 counties. The annual attendance of new and old cases under one year at all of these 43 stations totaled 1,507. Remember that there are over 70,000 births annually, outside of Cook county, and you can see how few are reached by the existing infant-welfare activities.

III. *Nursing Service.*—A canvass early in 1921 of the nursing situation in Illinois, outside of Cook county, showed a total of 232 nurses in the 101 counties, 71 of whom were employed by the local tuberculosis associations; 30 of whom were paid by the local Red Cross chapters; 46 were doing general nursing service; 68 were devoting their time to school inspection work; 10 were in the industries, and only 17 were known as child-welfare nurses and devoting their entire time to this service. In fact, 23 counties in Illinois have not even one public-health nurse in them.

IV. *Milk Pasteurization Campaign.*—Outside of Chicago the milk supply in many communities was not pasteurized at all, or else inefficiently done, and the bacterial count being high, a high diarrheal and enteritis death-rate is explained in part.

In an endeavor to remedy this, a milk ordinance for municipalities has recently been drafted by the Department of Public Health and then amended by a congress held at the Pageant of Progress. This model ordinance is being brought to the attention of city councils by the Department and by a committee of the congress with which the Department is coöperating.

The Department has inaugurated a milk pasteurization campaign throughout the state. Some half score of municipalities have already adopted the model ordinance prepared and recommended by the Department, but generally speaking the work began so recently that the large results which may reasonably be anticipated have not had time to materialize.

V. *Health Officers.*—An inventory of the safeguards thrown about the babies through an efficient local health organization in Illinois, elicited the information that all but 300 of the 2,700 local health officers were laymen. In addition to this fact, it was found that of the 300 medical men only 6 or 8 were full-time health officers, the others receiving for the most part $100 or $200 annually, and their services were usually on a par with their salary.

In attempting to improve these local health organizations we introduced a bill for a full-time county health officer. This bill was defeated, but as a compromise we obtained 25 instead of 5 district health superintendents. These have already been able to accomplish considerable results in organizing, directing and schooling local health agencies in promoting infant-hygiene services.

You can readily see from the foregoing that with a very high infant mortality-rate, poor birth registration, a restricted health officers' service, inadequate nursing service, and a milk supply which is not made safe by pasteurization, I had no great difficulty in determining that our next step in Illinois should be a campaign for the reduction of infant mortality. Further, feeling my great responsibility in this matter, I could not do otherwise than to advise the Honorable Len Small, Governor of Illinois, to accept the provisions of the Sheppard-Towner Act for Illinois, as offering the speediest financial aid to the solution of the infant-welfare problem. While we may improve the situation by an improved birth registration, better milk supply and better direction of inadequate local infant-welfare agencies, we must have money if worthwhile infant-welfare and nursing service is to be given to the local communities.

To this end we worked out a program under the Sheppard-Towner Bill with

the approval of the Board provided in said act, and had expected to put this into effect July 1 last. We had gotten to the point where a check for over $19,000 was in the hands of the state treasurer, and $52,000 more was due last July, when an opinion of the attorney general of Illinois prevented use of Sheppard-Towner funds until our state legislature can act on the matter next spring. Anyone who is interested in the Illinois program for Sheppard-Towner activities or desires more detail regarding our difficulties under the ruling of the attorney general, can find this information in the Illinois *Health News* for October. In this same edition of *Health News* are given the 1921 figures on Illinois infant mortality by counties, which have just been made available by the Division of Vital Statistics. These 1921 tables indicate a marked improvement over 1920 in infant mortality in Illinois—most of the improvement occurred in Chicago, as 623 fewer deaths under one year occurred among the 42 per cent of our population there, while but 351 fewer infant deaths occurred among the other 58 per cent of our population throughout Illinois.

I am aware that 1921 was a year of unprecedented reductions in infant mortality throughout the United States, as indicated among 70,000,000 in the Registration Area by a drop in infant death-rate during 1921 from an average of 86 in 1920 to 76 in 1921. Chicago's phenomenal drop was from 112 to 89.

While some of the improvement in the infant death-rate in 1921 over 1920 in Illinois is apparent rather than real owing to better birth registration, statistics for Illinois show that there remains still a fertile field in Illinois for infant welfare and other activities under the Sheppard-Towner Act if we can obtain the funds with which to take *our next step* in Illinois for the reduction of infant mortality and morbidity.

Eleven thousand six hundred and eighteen infants under one year in 1920 and 10,644 infants under one year in 1921 is far too great a toll for Illinois to pay, when many of these precious lives might have been saved by the expenditure of even such limited amounts of money as are indicated under the Sheppard-Towner Act.

V

ENNION G. WILLIAMS, M. D.
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Every health worker, from the chief officer to the latest recruit, if he would be successful in his efforts, must realize that general understanding of health principles must be inculcated as a condition precedent to sympathetic coöperation on the part of the public.

As a natural consequence of this realization, health departments have devoted much of their energies to the pursuit of educative programs. Through newspapers, through bulletins or pamphlets, through lectures and motion pictures, and to a limited extent through schools, health instruction has been given; the gospel of prevention has been preached.

The next step in health work is, in my opinion, destined to be the unlimited, rather than the limited use of the schools. Modern educators appreciate the importance of physical soundness as a basis for mental effort. The *mens sana in corpore sano* of the Romans is now recognized as a definite principle for all, rather than a compliment for the fortunate few.

Taking this truth for granted, and it would be a serious indictment of our school authorities if it were not true, our job is to discover the most practicable method of utilizing the almost limitless power of our educational institutions—from the primary grades of the public

schools onward and upward through grammar and high schools to the colleges and universities.

Necessarily, it would be an impossible task for any state health department to attempt the individual instruction of school children; and, even if such a duplication of the teaching staff could be made practicable through adequate financing, it may be questioned whether such a policy would be wise. For the young mind too much stress must not be put on health instruction. We do not wish to create a race of hypochondriacs or symptom hunters; our policy should be rather to make health instruction a part of the regular curriculum, a natural and inseparable part of it.

To do this we must teach teachers. In our primary and grammar schools we have teachers for classes, not for subjects. They are qualified for their work through high or normal school training or work at colleges. No matter what their preliminary preparation may have been, they cannot teach until they have satisfied the licensing authorities that they possess sufficient information to qualify them to give general instruction. We should strive to have health education considered among the essentials of general instruction.

Before we consider the opportunities which the schools can give, permit me briefly to revert to prior efforts. In the past, much of the time and money of health departments were expended in efforts to control the common communicable diseases by securing reports, by isolating and quarantining cases and contacts, and by terminal disinfection. The results were not satisfactory, and we know why. Our limited knowledge of causes of diseases, and our consequent ignorance of their methods of distribution, necessarily made us incapable of adopting proper means for their control.

We were like men thinking to stop a bucket from leaking by plugging up one visible hole while ignoring many smaller holes that we could not see. We confined our attention solely to the clinically sick person, ignoring the unrecognized case or carrier. Our viewpoint has changed. Increased knowledge has made us appreciate that, without relaxing our vigilance over clinical cases, we must endeavor to reach the more prolific sources of danger —the carrier, the unrecognized mild case and the case in the incubation stage. In diphtheria, as we know, carriers and unrecognized cases far outnumber clinical cases; and the same is probably true of scarlet fever. With measles and whooping cough the most dangerous period is during incubation, when germs may be broadcasted by coughing or sneezing, although the disease has not been recognized.

These diseases are transmitted in the secretions from the mouth and nose of the person with the germs. Since it is not known what persons have the germs, it should be assumed that the secretions from the mouth and nose of all persons are potentially dangerous.

As the chances of transmitting the secretions from one mouth to another are reduced, so is the incidence of the disease reduced. The teaching and inculcation of simple personal habits in the school are, I believe, the surest and best methods to combat the spread of that large group of diseases in which the germs of the disease leave the body in the secretions of the mouth.

We are endeavoring to enforce in every school room in our state the following two simple rules:

RULE I

Whenever you cough or sneeze, bow your head or put a handkerchief over your mouth and nose.

RULE II

Don't put in your mouth fingers, pencils or anything else that does not belong there, nor use a common drinking cup.

It may seem to some that these rules affect risks that are too slight to be considered. The risks are small; the chances for a child to contract a disease by violat-

ing one of these rules is slight; but if all the children violate the rules only half as many times as formerly, the incidence of a group of diseases should be cut in half.

Fortunately, we have at hand a demonstration for our use. Some years ago, appalled at the total number of accidents on railways, transportation chiefs inaugurated a "Safety First" campaign. We, today, take as a matter of course the many safety rules that are enforced by the railways, although they were strange when first promulgated. We do not board or leave moving trains; we do not stand on platforms while trains are in motion; we do not put our hands or arms or heads out of car windows. The result of observance of these rules has been that accidents have decreased most satisfactorily. Every person who courted danger did not get hurt even in the older and more careless times, and every one who is careful today does not necessarily escape; but the careful are relatively immune from harm and we may set it down as an axiom that: As the chances of harm are reduced, so the chances of safety will be increased.

This method of reducing the chances of potential dangers is practiced in the prevention of other groups of diseases. We do not attempt to prevent typhoid by measures directed at the clinical patient, but consider that the bowel discharges of all persons, well and sick, are potentially dangerous and must be safely disposed of. In the same way we attempt to get rid of all Anopheles mosquitoes and not simply the ones in the house with the malaria patient.

How better can we combat the large group of diseases carried by secretions of mouth and nose than by directing our attention chiefly to the children of the schools? With compulsory school attendance, which most states have, the great mass of our citizenship is reached in its formative years. Here is the opportunity to implant the fundamental knowledge of the causes of diseases and means of prevention—and the principles of personal hygiene and public health.

We know only too well that public-health activities must wait upon the will of the people as expressed by their representatives in municipal and legislative bodies. Not until the people understand the reason for public-health activities, and have faith in getting full value for the expenditure of funds, will they approve the development of health work. There is no surer way of safeguarding the future of public health than by planting the good seed in the virgin soil of the minds of our future citizens.

We will probably agree that smallpox has been held in check by the large amount of vaccination that has been done in the schools. Here also is where it can best be controlled in the future, and where effort must be directed if the disease is to be eradicated.

The school offers the opportunity of teaching health principles by precept and also by being a model for the community, illustrating good sanitation with a pure water supply, proper heating, ventilation and lighting.

Primarily, the health departments were concerned chiefly with preventing sickness. Of late years, particularly since the impetus given by the results of the draft for the war, the health departments are devoting more and more attention to promoting the physical standard of the people, especially of the children. Obviously, the schools are the places where this can best be done. As a result of school inspection the physical and mental defects are found out.

So our next step, in my judgment, is training teachers to teach health, and the fundamentals are simple. The teacher must be able to impart to the children lessons of prevention and protection for themselves. Generically, these may be placed under the captions of cleanliness and strength-building. It is manifestly unclean to take into our systems the wastes from the intestines of other people

—so we preach sanitation; it is hardly less offensive to think of taking into the nose or throat the discharges of someone else.

Our job is greatly helped if we can make people form health habits; and the teacher at present is our best instrument for that purpose. In proportion to the age of the pupil must be the character of health instruction to be given. It is too much to expect the little child to understand the details of germ transmission; but from the very earliest age certain habits may be inculcated.

Of these, cleanliness is the first—cleanliness of person and habits. The use of individual cups and towels and the frequent use of the toothbrush should be taught. Children of all ages should be told that they must cover every cough or sneeze; or, if a handkerchief is not at hand, that they must bend their heads toward the ground when they cough or sneeze. They must be taught that human wastes that are accessible to flies, to animals or to water sources are elements of danger, that mosquitoes threaten the health as well as the comfort of man. They must be taught to eat properly, the values of different foods and their proper balance. They must be taught to sit and stand properly, to breathe properly, to exercise properly in the open air, to pay attention to regular bowel movements. These are simple lessons; they are simple habits to form, but invaluable to the human family.

When we consider the opportunities that the school offers in the field of preventing sickness and promoting the physical standard of the individual, we must acknowledge that it affords a most strategic position for the health worker; and when the educator or school official fully recognizes his responsibility for the sound body as well as the sound mind, the two will form an invincible force to promote long life, health and happiness.

□

MEASURES FOR THE CONTROL OF THE ACUTE RESPIRATORY DISEASES

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Read before the Public Health Administration Section of the American Public Health Association at the Fifty-first Annual Meeting, Cleveland, October 17, 1922.

THE SITUATION

In Chicago, the general death-rate has fallen from a maximum of 73.8 in 1849, through a rate of 27.64 in 1872, and 12.59 in 1920, to 11.1 in 1921. Analysis of the seasonal distribution of deaths shows that the improvements has been in the summer-autumn general death-rate exclusively. This rate has fallen from a maximum of 42 in 1872 to 10.1 in 1920, and from an average of 29.8 in 1871-80 to 12.66 in 1911-20. There has been practically no improvement in the winter-spring general death-rate—the decade 1871-80 having had an average of 17.32, and that of 1911-20 one of 16.17.

A further analysis shows that there has been a great improvement in the death-rate from such typical summer diseases as typhoid, diarrheas in children under 2, and in the death-rate of babies under 1 from all causes—a group in which there have been and are other factors, but none more important fifty years ago than sanitary conditions prevailing in summer.

On the other hand, a study of pneumonia, bronchitis and influenza grouped together shows that these diseases are responsible for a higher death-rate than they were fifty years ago. During a fifty-year period in which practically all other

forms of bacterially caused diseases were wholly, or in great measure, being brought under control, the acute infections of the upper respiratory tract became worse. At any rate, they caused an increasing death-rate. No information is available as to the prevalence rate, aside from the death-rates, of these diseases and their non-fatal allies—coryza, tonsillitis and pharyngitis—during any one of the five decades of this half century period.

While the charts shown are based on Chicago conditions, I think we can assume that the conditions shown by them (charts displayed during the reading of this paper are not reproduced here) are, in a general way, the same throughout the United States.

Flexner[1] says: "In man, the prevalent type of epidemic disease has altered notably within a century. There have been far less of the diseases in which the portal of infection is enteric, and more of the diseases in which the portal of infection is by way of the respiratory tract."

Park[2] says: "Pneumonia is not decreasing in this country."

I submit the following conclusions as to the situation:

1. Pneumonia, bronchitis, tonsillitis and coryza and what is sometimes called endemic influenza, are the most prevalent and the most deadly forms of epidemic and endemic diseases now prevalent in the United States.

2. They are chargeable with an increased death-rate as compared with fifty years ago.

3. Our health departments are without adequate policies or equipment for their control.

MEASURES FOR THE CONTROL OF THE ACUTE RESPIRATORY DISEASES AND PARTICULARLY FOR THE CONTROL OF PNEUMONIA.

A plan against these diseases must embrace two methods of attack—these to be simultaneously carried out. The first dealers with environmental factors contributing indirectly toward acute respiratory infections; the second, with measures aimed more directly at the diseases.

INDIRECT MEASURES

This group of measures relates in about the same measure to coryza, tonsillitis, pharynigitis, what is called endemic influenza, bronchitis and all acute pneumonia except the terminal and secondary pneumonias.

1. In every city government there should be a bureau or commission dealing with city planning. Where there are such bureaus, they are commonly known by some name which includes the word "zoning." On such commissions, the health department must be represented strongly.

There is more proof of the ability of bacteria which cause infections of the upper respiratory tract to survive drying than is the case with other ordinary forms of infection (Stillman[25]). Sunlight must strike the pavements, if the dust is to be sterilized. Tall buildings, by throwing the street surface into shadow, interfere with the sterilization of dust by sunlight. They bring about an increased crowding of street cars. City planners and city zoning commissions will never see the relation of density of occupation of the land to health, and especially to winter diseases, unless the relation is persistently insisted on by health authorities.

2. Every city government should have a bureau dealing with smoke, dust and other forms of air pollution. These bear relation to health, and especially to the diseases which are peculiarly prevalent in the short days of winter and early spring—the days with few hours of sunlight. This bureau should either be in the health department or in close touch with it.

3. Every health department should have a ventilation bureau as a part of its organization. The city laws and ordinances should embrace laws on ventilation. This bureau should examine building plans; examine and advise as to installations for ventilating and heating;

watch over the operation of such installation; inspect premises, including street cars, and generally enforce the ventilation ordinances.

4. Somewhere in every city government, and preferably in the health department, there should be an agency to promote winter sports such as snowshoeing, skiing, skating, etc.

5. I merely wish to bring before you the advantage, from the health standpoint as well as from the economic standpoint, of a school year beginning on or about March 1st, and ending with the beginning of the Christmas holidays. If the health commissioner is ex-officio a member of the school board, as he should always be, he is in a position to insistently present this plan for a change in the school year.

DIRECT MEASURES

Coryzas

Coryza is the most frequent cause of illness and one of the most frequent causes of sickness absenteeism in people of all ages and all occupations. Many forms of contagion begin with a coryza, and are most infective during the period when coryza is the only symptom. There is at least an even chance that coryza is epidemiologically related to pneumonia, just as diarrhea is to typhoid.

Nevertheless, we are not ready for more than a rudimentary policy of control of coryza. We do not know the flora of the upper respiratory tract, either in health or in coryza. The very nature of coryza is in doubt. Vaughan[5] holds that it is a protein sensitization; some hold that it is from without; others that it is an auto-infection, and still others that it is a specific infection, while the public generally regards it as non-infectious. The public esteems it as a matter of minor consequence, does not consult physicians for it, and would not report it.

For these reasons, all that I can recommend as a coryza control policy is:

1. Education
2. Laboratory Research
3. Observations of coryza subjects among school children
4. Epidemiologic studies

Tonsillitis and Pharyngitis

This group of infections is responsible for a very high sickness rate; in fact, is the cause at times of the principal sickness absentee rate. Baker[6] so found it in the New York City schools in early winter.

The outstanding symptoms of the group are found in diphtheria, scarlet fever and other forms of contagion not called tonsillitis. There is a chance that sore throat is epidemiologically related to pneumonia. It is possible that the habitat of the organism in the earlier stage of pneumonia infectivity, is the tonsil. Nevertheless, we are not ready for more than a rudimentary health department policy with regard to sore throats. We do not know the flora of this region, not even of the tonsils, in spite of the extensive literature on that subject. No one has explained why coryza which travels along the mucous membrane from the nose to the bronchi, usually does not cause tonsillitis.

The only terms of policy I offer are:

1. Education
2. Laboratory research
3. Diagnosis as between sore throats, tonsillitis and other infections
4. Epidemiological studies

Simple Bronchitis

The policy for this disease is the same as in the case of coryza.

Endemic Influenza

In view of the great uncertainty as to the existence of the disease in this country, as to diagnosis in given cases, and as to its relationship to pneumonia, bronchitis and coryza, the following policy is recommended:

1. Reporting
2. Bacterial diagnosis
3. Research work
4. Epidemiological studies

Epidemic Influenza

The control of this disease is a problem in itself, differing in many features from that presented by pneumonia. The valuable reports on the epidemic of 1918 will doubtless point the way for proper procedures of control, which should be determined upon in advance of the next pandemic wave.

Incidentally, I have found that confusion as between influenzal pneumonia and ordinary pneumonia has made the historical study of epidemiology of pneumonia difficult. It has increased the difficulties in studying the epidemiology of the pneumonias prevalent since 1918. The closely analytical studies of the influenza outbreak such as those of Opie[7b] and Vaughan[8], do much to clarify the question.

Acute Pneumonia Except Terminal and So-called Acute Severe Bronchitis

A program for the control of pneumonia should include the following procedures, aimed directly at the disease:

1. Reporting—In some cities, reporting is now fairly well done. In Chicago in 1921, the cases of pneumonia reported numbered 8,336; the deaths numbered 2,152. This would indicate reporting that is at least 75 per cent complete. In all probability, the reporting of measles, scarlet fever, whooping cough and diphtheria is no more so.

In Cole's "Program for the Control of Pneumonia"[9] reporting is set down as the first step. I agree with this opinion. Those places not now requiring the reporting of pneumonia should adopt the procedure. Those requiring it should bring their reporting up to 100. Reporting pneumonias and bronchitis should be on a basis of the bacterial cause. I can see no epidemiologic reason for trying to maintain the anatomic basis for classifying pneumonias. The reporting of static pneumonias, and pneumonias terminating other forms of organic disease, need not be done.

2. Diagnostic Laboratories—Some health department laboratories now make bacteriologic diagnoses of pneumonia sputum. These diagnoses relate to the kind of bacteria predominating and, in the case of pneumococcus, to the type. Methods of typing that are feasible and practicable are now in use. They are less available for specimens shipped some distance, as is often necessary in the case of state laboratories, than they are where the specimen can be delivered at the laboratory soon after its collection. The standard method is that of Avery. The method of Krumwiede has some advantages and some disadvantages. The number of improvements in diagnostic technique, noted in the journals from month to month, is evidence of the dissatisfaction with present methods and promise of improved and more practicable procedures at an early date.

The work of the diagnostic laboratory should cover the sputum of the attendants of the patient. Opie[7b] says: "The essential factor in the management of influenza and pneumonia is such isolation of each patient that microörganisms cannot be transmitted from one to another or from attendants or others to patients.

At or after the conclusion of the case stage, the diagnostic laboratory should be used to detect carriers among the contacts as well as convalescent carriers.

3. The Use of Curative Biologic Products.—The development of these products has proceeded to the point that health departments can get behind them to a limited extent; can furnish them for use in their own hospitals, and can supply them on somewhat the same basis that diphtheria antitoxin is now supplied. The indications are that the future will see an increased curative efficiency of, and an increased use of these products.

Some health departments make their own pneumonia antigen and pneumonia sera. Whether a laboratory shall manufacture or buy and check the purchased product, is to be settled by each department on the basis of economics and its

equipment, with men trained in this line, and equipment in other directions.

Cecil[10] says: "We have a specific treatment for pneumococcus, type I pneumonia, and there are good reasons for believing that an efficient specific therapy will soon be worked out for other types." This is a conservative statement of the general trend of opinion, as found in the more scientific literature.

4. Vaccination Against Pneumonia.—To my mind, the efficacy of vaccination against pneumonias has been established by the work of Wright[11], Lyster[12], Cecil and Austin[13], Cecil and Vaughan[14].

Blake and Cecil[15] say: "The indications are that prophylactic vaccination against certain types of pneumococcus, may lead to a reduction in the incidence of those types." Further on in their study, they conclude that immunity produced against one type begets some degree of immunity against other types.

Duckwell[16] says: "The obvious conclusion is that the vaccine protects against pneumonia and the common respiratory diseases in the proportion of five to one."

Wadsworth[17] says: "Man has a considerable resistance by reason of repeated exposure to pneumococcus infection."

Vaughan[8] says: "The southern soldiers came from communities in which the pneumonias are rare, and consequently had had only slight opportunity to acquire immunity; while the northern soldiers came from communities in which pneumonias are more common, and consequently had had greater immunity." In discussing vaccines, he says: "Certainly the results thus far obtained are promising and justify further research."

Simon[18], speaking of vaccination, says: "Findings at Upton and in South Africa clearly indicate that at least a very definite advance has been made toward the conquest of this scourge."

The duration of the immunity has not been established, though the view that it will persist throughout the winter-spring season has been strongly presented. We have enough information in hand to warrant us in either requiring, or strongly advocating but without requiring, vaccination of people in barracks, and children and old people in institutions for these groups, and in promoting, less vigorously, vaccination of other groups or even of the general public.

Laboratories should be equipped to furnish these vaccines where they cannot be otherwise conveniently, safely and more economically supplied.

However, McCoy[19], Wadsworth and others, report that, in their experience, vaccination has not proved effective.

Clark and Murphy[20] say that from 26.8 to 50 per cent of people have a second attack of penumonia, and that there are no specific antibodies produced in pneumonia. They proved that the lungs could produce antibodies, and assumed that the absence of antibodies in pneumonia was due to some peculiarity of the infecting organism, and not of the lungs.

5. Convalescent Carriers and Infected Contacts.—There should be an effort to control convalescent carriers and infected contacts.

6. Research Work.—The need of research work on acute respiratory infections need not be emphasized. Suggested fields of inquiry are as follows:

1. The flora of the nose and sinuses, the tonsils, pharynx and mouth. [7 21 22]

2. The flora of the trachea, bronchial tubes and lungs.

3. The host reservoirs for the organisms which cause pneumonia.

4. How are the bacteria of pneumonia activated?

5. Various phases of the carrier question.

6. How is infection spread?

7. When is it safe to terminate a case of pneumonia?

8. Vaccines.

9. Curative biologic products.

10. Simpler diagnostic procedures.

11. Relation of housing to pneumonia.[21]

12. Which cases of pneumonia should be hospitalized?

13. Can pneumonia be safely treated in hospital wards?[27]

14. Overcrowding in homes.

15. Overcrowding of cases in hospital wards.

16. Relation of weather and proportion of carriers to total population—to pneumonia.

17. Relation of these factors to spacing of occupants of homes and of beds in barracks and hospitals.

7. Appointment of an Epidemiologist.—Until such time as more detailed procedures for the control of pneumonia can be worked out, standardized and applied, and until pneumonia has ceased to effect so large a death-rate, the work of pneumonia control in a well organized health department should be under the direction of a trained epidemiologist.

The epidemiology of pneumonia is a new subject, at least, epidemiology based on routine laboratory procedures, is new. Considerable uncertainty prevails, both by reason of the newness of the subject and by reason of the variability in the infecting cause at different times and in different epidemics.

Vaughan[3] properly says that pneumonia is not an entity in the sense that diphtheria is, the latter being due to but the one infecting organism, whereas pneumonia is a reaction to any one of several organisms. Cecil[10] is right in asking that we specify the kind of pneumonia by its bacterial cause.

In reading the history of pneumonia as given by Hirsch[23], Webster[24] and Vaughan[3], one notes great uncertainty and uneveness in reports on infectivity of pneumonia due to confounding influenza and pneumonia.

As well as I can, I estimate the epidemiology of pneumonia is as follows:

1. Pneumonia is ordinarily an endemic disease, but it occasionally takes on epidemic peculiarities and qualities, and prevails in epidemic proportion.

2. While prevalent at all seasons, its prevalence is subject to marked seasonal variation. Any program for its control must be based in part on the factors responsible for the seasonal variation.

3. While it prevails at all age periods, the age variations in prevalence are so great that measures of control must take this into consideration.

4. In ordinary times pneumonia, in the great majority of instances, is due to infection with pneumococcus.

5. Of the pneumonias due to pneumococcus, about 80 per cent are due to types I, II, III, and 20 per cent to type IV.[25 10] These percentages were markedly disturbed during the recent waves of influenza, type IV becoming unduly prominent, but the ordinary rule is four to one as stated.

6. The distribution of cases, as between infection with pneumococcus, streptococcus, influenza bacillus and Friedlaender's bacillus, is not settled. During the epidemic of measles in the United States Army, infections with streptococci, influenza bacillus became very frequent and prominent. As before stated, the influenza waves disturbed the distribution of cases between the bacterial causes, increasing the proportions due to streptococci and influenza bacilli.

7. Bacterial diagnosis is important from the standpoint of prevention, epidemiology, treatment and prognosis.

8. While it has been established that infection from cases can, and does occasionally occur, pneumonia contracted from cases in ordinary endemics is rare. Simon[18] says: "In view of the rarity with which pneumonia was known to develop through contacts," etc.

9. The great majority of infections are due to convalescent carriers. Southworth[33] says: "We may grant that comparatively few adults in good health can be shown to have contracted pneumonia while in close contact with the disease, but the case is different with children." Vaughan[3] says: "With proper precau-

tions, we do not believe that strict isolation is necessary in the care of pneumonia patients." Cole[9] says: "Virulent pneumococci are harbored by those convalescent from pneumonia, as well as those who become carriers by contact."

10. Convalescent carriers and contact carriers remain such for about four weeks, when no treatment is given. (Stillman[25] says 25 to 80 days.)

11. Whenever and wherever pneumonia is prevailing and pneumococcus types I, II and III carries abound, overcrowding must be prevented and high ventilation standards must be maintained.

12. Type IV pneumococci, the variety found in the mouth ordinarily, are rarely infective, and when they cause pneumonia, the disease has a low case fatality rate.

13. Pneumococci are transferred by mists, sprays and by dust.[25]

14. Pneumococci can be spread by eating utensils.[36]

15. The human host is the only known reservoir for pneumococci types I, II and III.

16. Pneumonia, epidemiologically, is more nearly akin to epidemic cerebrospinal meningitis than it is to any other disease.

17. Little or nothing is gained from the epidemiologic standpoint in hospitalizing pneumonia.

18. Quarantine, such as is employed in a disease like smallpox, measles and scarlet fever, gains nothing.

19. Attention centers on the prevention of the development of convalescent and contact carriers.

20. The wearing of masks, protection of head zones, spacing of beds, ventilation of the sickroom, intermediate disinfection and bacteriologic examination of convalescents and contacts, and other measures to prevent infection of contacts are insisted on.

21. All other measures are of minor importance.

This is as far as I can go in the suggestion of a program. To get the matter more specifically before this Section, I give you a brief outline of the methods now employed in Chicago, and follow that with some comments and suggestions thereon:

Pneumonia is reported. Upon receipt of the report, an inspector visits the home and placards front and rear. The children are not allowed in the sickroom. They are permitted to go to school. Employed persons are permitted to sleep at home, out of contact with the sick person, and go to work without hindrance. Intermediate disinfection is advised and, after a fashion, required. Quarantine is terminated upon physician's notification. No throats are examined. No terminal disinfection is done by the department. Pneumonia in hospitals is cared for in pneumonia wards and in private rooms. Bacterial diagnosis is offered and is occasionally done. Antigen for curative purposes is manufactured by the department and supplied upon request. This is about the program of the more up-to-date departments in the country.

I suggest the following modifications of the plan now used in Chicago: That an epidemiologist be put in charge of pneumonia control, who will adopt a policy as outlined above. This policy should center around the convalescent and contact carriers as the source of trouble. The policy should be essentially that of the standard policy for the control of cerebrospinal meningitis.

The papers on this program relate largely to the epidemiology of pneumonia. I hope the discussion will cover not only these phases of control, but vital statistics questions, laboratory procedures and hospital relations as well.

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PLANS TO REDUCE THE HIGH MORTALITY FROM THE ACUTE RESPIRATORY DISEASES IN WINTER

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THE cause of public health has advanced measurably in the last century, particularly in the last quarter of this period. The death-rate today is just half what it was when Millard Fillmore was president. Those ghastly epidemic peaks in the mortality curve rising to 40, 50 and even higher, mute evidence of the ravages of cholera, smallpox, typhoid and yellow fever, have disappeared from the graph of our country's mortality history. But for influenza in 1918, we should have a gently undulating curve declining from 1880 to date.

The reduction in the mortality rates has been due to declines in specific causes and has not been general. Tuberculosis has lessened as have diphtheria, scarlet fever, typhoid, malaria, smallpox and the deaths among infants. Certain diseases of advanced life have increased.

We are particularly concerned in this paper with the behavior of pneumonia. In the twenty-five years from 1864 to 1888 the combined rates for the cities of New York, Philadelphia, Boston and New Orleans show a pneumonia mortality of 189. In the next twenty-five year period this rate was 232. In the former period pneumonia represented 7 per cent of the total deaths. In the second period the pneumonia ratio was 12 per cent.

Turning to the expanding registration area we observe a decline in the pneumonia death-rate from 181 in 1900 to the lowest point of 124 in 1919. (See Chart 1.) While this is encouraging we must recognize that pneumonia is still one of the largest items in the mortality table. It causes about 10 per cent of all deaths in the Registration Area advancing from 9.0 per cent of the total deaths in 1900 to 10.5 per cent in 1920.

EXPANDING U. S. REGISTRATION AREA

Year	Per Cent of Total Deaths Caused by Pneumonia
1900	9.0
1905	9.3
1910	9.9
1915	9.8
1920	10.5

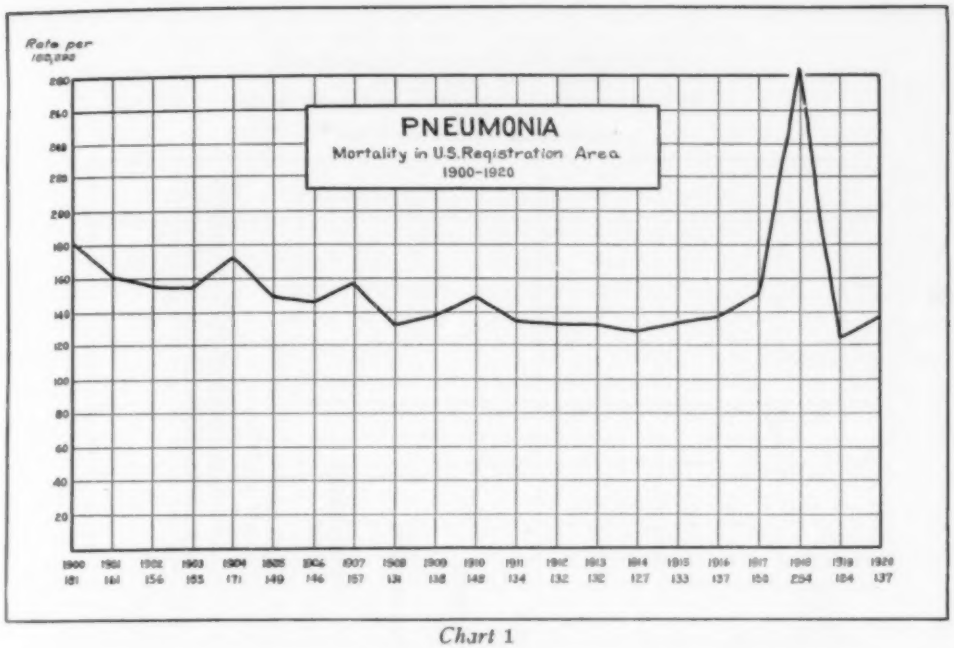


Chart 1

There are of course not included in the above figures the numerous deaths where pneumonia is listed as a contributory rather than as a primary cause.

In New York State, which represents more uniform conditions than the Registration Area as a whole, during this twenty year period we observe that pneumonia represents more than 11 per cent of the total mortality.

The city suffers from pneumonia more than the country districts. In the last twenty years it has been fully a third greater in the urban communities. There are vast differences in the rates of the large cities.

Pittsburgh has usually headed the list with the highest rate, the average for the years 1911-1917 inclusive being 275. Next comes Baltimore with 210, Boston 203, New York 191, and the lowest rate among the ten largest cities is for Cleveland, the figure being 140, about half that of Pittsburgh. In 1915, 16 per cent of all deaths in Pittsburgh were attributed to pneumonia. Contrast this with San Francisco where pneumonia represented but 8 per cent of the total deaths.

Of course the pneumonia death-rate is influenced by the age distribution of the population, race, color and sex. Pneumonia is a disease of the extremes of life. Take the figures for New York State in 1910 as an example: the rate for children under 5 years was 789, for people from 5 to 60, 74, and for people over 60, 678. Thus the rate from 5 to 60 years is about one-tenth of what it is at the extremes of life. The actual numbers of pneumonia deaths in these age groups are: under 5 years 7098, 5-60, 5561, over 60, 4442.

Pneumonia is greater among the colored race than among the white. In the industrial mortality experience of the Metropolitan Life Insurance Company for the years 1911 to 1916 the colored rate for pneumonia (lobar and pneumonia undefined, exclusive of children under one year) is about 120, compared to a rate of 73 for whites. The colored rate is likewise higher for broncho pneumonia.

Pneumonia kills more men than women. This is more pronounced for lobar pneumonia than for broncho pneu-

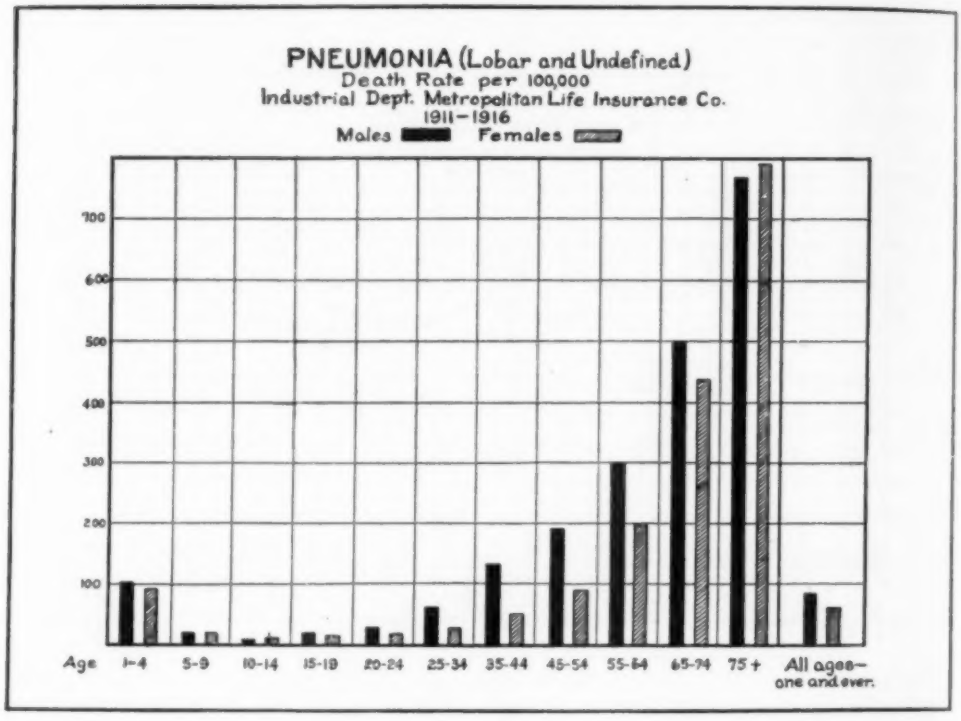


Chart 2

monia. The Metropolitan Life Insurance experience from 1911 to 1916 for lobar pneumonia and pneumonia undefined is represented by a rate of 83 for white males and 63 for white females. The corresponding rates for broncho pneumonia are approximately 30 and 29. As will be noted on Chart 2, this excess for males in lobar pneumonia holds true for all age groups except 10 to 14, and 75 and over. At the age group 35 to 44 the male rate is 2.6 times the female rate. It is evident that the male in the prime of life is noticeably more susceptible to pneumonia than the female at this age. This suggests that employment or occupation exercises an influence. This is further borne out by the excess of male deaths among the industrial policy holders of the insurance company as compared with the general population. It appears that the industrial policy holder, employed for the most part in manual labor, is a more healthy specimen and less prone to pneumonia up to the time he is 25 years of age. From then on till old age, his work becomes more hazardous so far as lobar pneumonia is concerned. At age 25 to 34 the industrial policy holder has a rate 1.6 times that of the male population at large which covers all occupations.

In general the worker whose occupation keeps him out of doors is less subject to pneumonia than the person subjected to extremes of heat, or the clerk and office worker who lead an inactive physical life in a slightly overheated atmosphere.

We must recognize that pneumonia is normally a creature of the season but that at times its infectiousness ignores the weather completely and carries on its destruction even in midsummer if the human soil is fertile, as there is ample testimony in our recent army experience.

Pneumonia has been classified clinically and bacteriologically. We take the lib-

erty of proposing a classification on an epidemiological basis. First, there is epidemic pneumonia, the infectious type which apparently ignores the weather; second, there is sequel or secondary pneumonia which follows an infectious disease or accidental injury, and third, endemic or seasonal pneumonia, the type that is with us every winter.

By epidemic pneumonia we mean that form in which the disease takes on the characteristics of a sudden flare up, and in which the cause is to be found in some infection to which all have been directly or indirectly exposed. Primary pneumonia may be just as truly epidemic in character as scarlet fever, measles or diphtheria. In August, 1918, there were admitted to Camp Wheeler, at Macon, Georgia, 4,134 colored recruits from the state of Georgia. These men were immediately placed in a newly organized receiving camp, and were housed in the standard army pyramidal tent. Due to a shortage of equipment, overcrowding existed, it being necessary to house as many as ten or twelve men in some of the tents. Other equipment such as blankets and clothing was inadequate, and the companies suffered much from lack of discipline on the part of the officers. This occurred during the first part of August which, so far as weather conditions are concerned, was a typical August for Georgia. The mean temperature for this month was 79.7° as compared with 80° for this month since 1871. The weather was somewhat drier than usual. The nights were cool, but not unusually so. Within a few days there developed among these recruits 189 cases of primary pneumonia. Practically all of these cases were typed in the base hospital laboratory, with the result that approximately two-thirds of the men were found to be suffering from the Type I pneumococcus. A careful history of each case was secured by one of us and we were much impressed by the fact that contact between individuals had been the prime factor in spreading the infection. There would be three or four cases of Type I pneumonia taken from the same tent. Then a friend in another tent some distance away would be affected; again it was a relative. It was notable that a more or less intimate relationship existed between cases that were quartered some distance apart. Obviously, the preventive measures to be invoked to decrease the spread of an outbreak of this description are those which are ordinarily employed to stop contact infection, and include the elimination of over-crowding and the application of the principles of personal hygiene. There is some evidence, as shown by the work of Cecil and others, that prophylactic inoculation against fixed types of pneumococcus pneumonia has been productive of promising results.

By sequel or secondary pneumonia we refer to the type which follows a previous infection, accident or operation. It was clearly shown during the late war that the danger to measles patients lay not in the primary disease, but in the possibility of picking up a secondary infection while in the hospital ward. When admitted to the hospital only a small per cent of the measles cases were found to carry the streptococcus or pneumococcus. Within a few days it would be found that 50 to 60 per cent of the patients in a given ward were harboring one of these organisms. Such deaths as occured were not from measles, but resulted from sequel pneumonia.

We have a good illustration of this in the early war experiences of Camps Wheeler and Upton. Wheeler's personnel was made of National Guardsmen from the south who had had but little measles. When brought together it needed but a case or two of measles to light the fire and an epidemic burst forth, followed shortly by much pneumonia. Camp Upton consisted of National Army men from New York City. By reason of their urban existence they had had measles in childhood. There was thus no

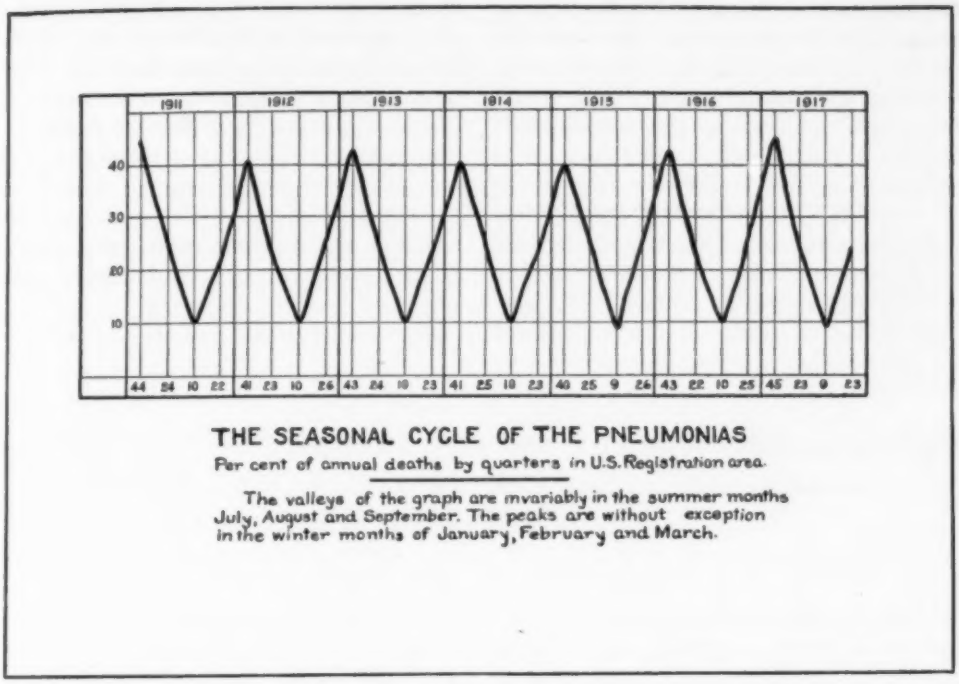
inflammable timber for the measles spark. Little measles occurred, and in consequence but little pneumonia developed. The raw recruits, fresh from civilian life in the cold and inclement north, did not have pneumonia. The susceptible men in the milder south suffered severely from pneumonia which was induced by measles.

We would include in this class, pneumonia following influenza or any other epidemic disease. A favorable prognosis depends almost entirely upon the success with which the attendant meets in keeping his patient free from those organisms which produce a secondary infection with a high mortality rate. To our mind the most important preventive measure is to segregate the patient in his bed as soon as possible after he has shown symptoms of the primary disease. Certainly those who accepted the sane advice of the physician, remained at home and went to bed soon after manifesting symptoms of influenza, had a far greater opportunity to recover than did those who insisted upon remaining at work, coming in contact with carriers of every type of pneumonia producing organism. In military life strict discipline within and without the hospital will do much to minimize sequel pneumonia. In civil life we must again resort to education, and especially must we secure the hearty coöperation of the leaders of industry and others who employ a large number of individuals and whose influence if properly directed may result in the early segregation of those who suffer from colds, influenza and other forerunners of a pneumonic condition. The evidence thus far accumulated with respect to the value of pneumonia vaccination as a preventive of sequel pneumonia is not very encouraging.

Endemic or seasonal pneumonia includes the type of disease with which we are most familiar in civil life—sickness which is largely influenced by the personal resistance of the individual, his personal habits, his diet, his mode of dress, his tendencies to unduly expose himself to severe climatic changes. Every year we witness the increase of pneumonia in the autumn, the peak stage reached in midwinter followed by a decline in spring and a low point in summer.

For the expanding Registration Area from 1911 to 1917, 43 per cent of the annual pneumonia mortality occurs in the first three months of the year, 24 per cent in the second quarter, 10 per cent in the third quarter and 23 per cent in the last quarter. With but slight modification, this ratio is maintained year after year. This seasonal fluctuation holds goods for Los Angeles as well as Minneapolis and Detroit. (Chart 3.)

There are examples of seasonal pneumonia in the army. Recruits drilling in inclement weather, practicing on the rifle range, frequently lying for hours in the damp grass or on the muddy ground, forced marching, becoming overheated and afterward chilled when stopping to rest, are but examples of pre-disposing causes. The epidemiologist at Camp Upton found that the hospital admissions for pneumonia from among drilling recruits increased markedly during those days of the year on which there was experienced alternate freezing and thawing. These were the days on which the troops would start out early in the morning dressed for cold weather, the ground being frozen, and before they had been out on the drill grounds for many minutes the sun would soften the soil, rendering the field muddy, and overheating the troops. This undue exposure was too severe for the unseasoned man and resulted in colds, sore throat, coryzas and in many instances pneumonia, the bacteriologic type depending entirely upon the strain which might be presented in the individual's buccal cavity at that time. As long as continued cold weather existed without any rise in temperature above the freezing point, there was no pneumonia. The disease manifested itself


1911
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THE SEASONAL CYCLE OF THE PNEUMONIAS
Per cent of annual deaths by quarters in U.S. Registration area.
The valleys of the graph are invariably in the summer months July, August and September. The peaks are without exception in the winter months of January, February and March.

Chart 3

only during those periods in which a marked diurnal change of temperature occurred.

Preventive measures in military life must depend largely upon the common-sense care of the soldier on the part of his superior officer. Our major concern is with the seasonal pneumonia of civil life. Its prevention is a perplexing problem for the health officer, and with our present knowledge we are forced to confine ourselves to educational propaganda along the lines of personal hygiene. The anti-coughing, sneezing and spitting campaigns have been of value. Published articles on ventilation, care of the home, the prevention of overcrowding, the proper clothing to wear, exercise, etc., are also of value.

Results can be achieved by educational means. The New York State figures show that the pneumonia death-rate for children under 5 years has fallen from 853 in 1900 to 508 in 1920. The age group over sixty shows no reduction between 1900 and 1915, but a drop in 1920. The middle-age group has made no material progress. For every 100 deaths in 1900 there were 92 in 1915 and 112 in 1920.

PNEUMONIA MORTALITY IN NEW YORK STATE
ANNUAL RATE PER 100,000

Age	1900	1905	1910	1915	1920
Under 5.....	853.	728.	789.	666.	508.
5 to 60.....	81.	67.	74.	74.	90.
60 and over..	625.	593.	678.	632.	482.

In Detroit all causes of infant mortality have declined in the last 20 years, pneumonia included. For every 100 deaths from pneumonia in 1906-07-08 there were 74 in 1913-14-15, and 61 in 1919-20-21.

In conclusion, we believe that there is no panacea for endemic pneumonia immediately in sight other than hard work —laboratory research, field research, statistical research. We must gather still more information about the cause of pneumonia. Is the mass of endemic pneumonia self-induced by transgressions of personal hygiene? Must we pay more

respect to the common cold? Weather is responsible for pneumonia, but what elements of the weather—temperature, humidity or sudden change? We must know vastly more about the correlation of weather elements with pneumonia.

There is already under way a movement to establish an endowed atmospheric research institute. This is endorsed by the American Meteorological Society and the National Research Council. We propose the active support of this movement by the American Public Health Association, appreciating that it will lead us not only to a clearer comprehension of pneumonia, but also of those other acute infections concomitant with cold weather—scarlet fever which blossoms in the north and is practically unknown nearer the equator, diphtheria which shows similar but less marked tendencies, and measles which though apparently following people to all parts of the globe, prefers cold rather than warmth for its activities.

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1922 PROGRESS REPORT OF THE COMMITTEE ON EDUCATIONAL AND PROFESSIONAL STANDARDS FOR VITAL STATISTICIANS

Read before the Vital Statistics Section of the American Public Health Association at the Fifty-first Annual Meeting, Cleveland, October 19, 1922.

Your Committee was appointed to coöperate with the Committee appointed by the American Statistical Association to consider educational and professional standards for statisticians. We have kept in contact with the American Statistical Association Committee, which is composed of the following persons within the membership of that organization:

American Statistical Association Committee on Educational and Professional Standards for Statisticians:

Representing the Board of Directors:
Malcolm C. Rorty, (Chairman)
Louis I. Dublin.

Representing the Membership:
S. L. Andrew,
Donald R. Belcher,
Edwin W. Kopf.

Work of the American Statistical Association Committee:

This Committee examined a number of proposals made to it by academic and practicing statisticians. One of these proposals was a list of recommended subjects of study designed to impart knowledge of certain basic natural and physical sciences, elementary and advanced mathematics, logic, statistical office and field practice, and statistical analysis. Another proposition was a plan for certifying the competence of two groups of membership in the Statistical Association: (a) Associates, or juniors and (b) Fellows, or seniors.

These ideas were deemed to be impracticable at the present time, because of the lack of suitable, uniform texts for instruction. The Committee thought it would be most helpful to all interests concerned if the Statistical Association were to direct the preparation of a reference work on statistical methods which are common to all fields of statistical work. The several subjects are to be worked up by specialists competent in each field, examples of essential principles to be drawn from as many fields as possible. It was thought that such a work would serve as a basis for instruction in fundamental subjects with which all statisticians need to be acquainted. Questions of certification of proficiency can be left until the reference work has been in use for a sufficient time to warrant further action.

Work of the American Public Health Association Committee:

Your Committee has been in correspondence with many statisticians here

and abroad, and wishes to report practically undivided support for the proposal for setting definite standards of education in statistical fundamentals. The need for advancing vital statistics is evident. More and more, the vital statistician is being called to the council tables of public health. He is being invited to test the results of intensive public-health effort. His advice is sought when programs are proposed which involve the effective expenditure of millions of dollars. His is the task of presenting reasoned judgments on the concrete results of public-health work of the past, and on the possible fruitfulness of effort in contemplation. These new functions involve training and distinguished competence in the higher arts of statistical analysis, in the methods of drawing valid conclusions from data made available by the vital statisticians of the older school of the pre-critical stage of public-health development. Questions are today being asked by the public, which cannot be answered by the statistical methods, the primary inductive methods, hitherto in vogue. New habits of thought must be inculcated; powerful, convincing arguments must be constructed by legitimate, readily-understood, sound methods. The vital statistician of the future will be a thinker, an impartial critic, an unbiased advisor.

This Section should lend its assistance in every effort which gives reasonable promise for developing the men and women who are to take up the public-health analysis of the future. There is much work to be done. The first step, it seems to your Committee, is to endorse the effort of the American Statistical Association in preparing its proposed reference text. An expression of opinion from the Section will fortify the effort of the members of the Statistical Association who are to undertake the work. The matter will be discussed by the American Statistical Association at a round table meeting the last week in December of this year on the occasion of the annual sessions of that Association. Our members are invited to submit suggestions to Professor Robert E. Chaddock, Secretary, American Statistical Association, Kent Hall, Columbia University, New York City.

Your Committee offers the following resolution for your consideration:

RESOLUTION BY THE SECTION ON VITAL STATISTICS, AMERICAN PUBLIC HEALTH ASSOCIATION, CLEVELAND, OHIO, OCTOBER 19, 1922.

WHEREAS: The professional advancement of vital statistics in America depends upon the character and quality of education in the general principles and practice common to all forms of statistics, and

WHEREAS: A suitable reference text on approved methods of statistical description and analysis is essential for the instruction of students and practitioners of all branches of statistics, therefore, be it

RESOLVED that the Section on Vital Statistics of the American Public Health Association heartily endorses the proposal of the American Statistical Association for compiling a reference work on statistical methods.

EDWIN W. KOPF, *Chairman*,
EDGAR SYDENSTRICKER,
RAYMOND PEARL,
RICHARD C. LAPPIN,
OTTO R. EICHEL.

APPENDIX TO REPORT OF COMMITTEE ON EDUCATIONAL AND PROFESSIONAL STANDARDS FOR VITAL STATISTICIANS, SECTION ON VITAL STATISTICS, AMERICAN PUBLIC HEALTH ASSOCIATION.

In order that our members may be able to follow the thought of the Committee in its work, the following tentative list of subjects of instruction in educational, fundamentals is offered. This list was submitted by your Committee to representative statisticians in the United States and abroad, and to the American Statistical Association Committee. Helpful comment was received from Professor Sven Wicksell (Lund, Sweden), Professor Corrado Gini (Padua, Italy), Dr. Major Greenwood (London, England), Dr. John Brownlee (London, England), Mr. G. H. Knibbs (Australia), and from the following statisticians and analysts in America: Professor Walter F. Willcox, Professor H. L. Rietz, Professor Raymond Pearl, Dr. Roland P. Falkner, Professor George C. Whipple, and others.

TENTATIVE PROPOSAL OF A LIST OF SUBJECTS TO BE INCLUDED IN AN EDUCATIONAL SYLLABUS FOR STUDENTS OF STATISTICS.

(a) JUNIOR STATISTICAL WORK.

1. *Statistical practice. Office and field technique.*

Statistical arithmetic (short-cuts, using calculating devices, logarithm tables, slide-rule,

etc.). Schedule drafting; principles of editing schedules, classification theory and practice. Tabulation processes: hand and machine processes, table structure, card systems. Graphics. Library technique and general information service. *(In vital statistics:* registration law and practice).

2. *Elementary mathematics.*

Algebra, with emphasis on simultaneous linear and quadratic equations, ratio and proportion, progressions, binominal theorem, variation, series (logarithmic and exponential, convergency and divergency of series, recurring series), theory of equations, permutations and combinations, probabilities (algebraic treatment only), determinants. Plane geometry, plane trigonometry, analytic geometry, differential and integral calculus, finite differences.

3. *Social science*

Elements of economics and sociology.

4. *Elements of general biology*

5. *Applied logic*

6. *Elementary statistical methods of analysis*

(b) SENIOR STATISTICAL WORK.

1. *Calculus of probabilities* as a branch of statistical logic. Theory of observations, theory of least squares and method of moments. Philosophy and history of advanced statistical methods.

2. *History and methods of official statistics*

Censuses; registration and statistical systems of principal countries; statistics in relation to national economy.

3. *Statistical forensics*

Application of statistical results to practical administration of governmental and private enterprises. Statistical counsel.

4. *Practical organization and administration of statistical work*

Office organization and management, planning and presenting statistical researches.

A MENTAL HYGIENE SERVICE FOR PRE-SCHOOL CHILDREN

ARNOLD GESELL, PH. D., M. D.

Professor of Child Hygiene and Director of the Psycho-Clinic, Yale University

Read before the Child Hygiene Section of the American Public Health Association at the Fifty-first Annual Meeting, Cleveland, October 16, 1922

ONLY thirty years ago Dr. Budin established in Paris the first infant welfare center. It was a simple but practical conception, a consultation center for the examination of babies and the instruction of mothers in child care. This idea has spread the world over, and infant welfare centers can now be found in Alaska, Australia, China, and Mexico. They have multiplied at a phenomenal rate during the last few years in England and America. Ambassador Jusserand, speaking in 1910 at the first annual meeting of the American Association for the Study and Prevention of Infant Mortality, said: "When its far-reaching results shall have been gauged, France will be as proud of Dr. Budin for his good work, as she is even of the discovery of the most startling inventions made by any of her sons in the realm of science or industry."

The Ambassador spoke with characteristic French insight; for the child consultation center, simple as it is, represents a social device with unlimited possibilities of growth and elaboration. The grafting of a mental-hygiene service on the consultation and health center organization is one of these possibilities. The center is nothing less than a vital point of contact, where child, parent, and the scientific social inheritance of the race meet in order that lives may be saved and made more complete.

In some respects this social device, the child consultation center, is of more significance even than the public school. Why? Because it copes directly with the most fundamental of all problems, the rearing of children. It makes health its undivided concern. It reaches the parent as well as the child. And it reaches the child before he has attained that stage of

relative completion and superannuation,—the school age!

In a developmental sense, the child is indeed a pretty well-finished product when his sixth year molars begin to erupt. The pre-school years are incomparably the period of most rapid and most fundamental growth, whether physical or mental. Biologically, the pre-school period is the most important period in the development of an individual, for the simple but sufficient reason that it comes first. Psychologically, the pre-school years are basic because the foundations of the structure of personality are then laid. It would not be dogmatic to say that no child mentally ever outgrew his first six years. Medically, the pre-school age is of critical consequence because it exceeds all others in mortality and morbidity. It is the strategic sector on which to concentrate the defenses of preventive medicine. Most of the physical defects of school children originated or pre-existed in the pre-school period. To an astonishing extent this is also true of mental defects and mental abnormalities.

Let me attempt to prove the last statement. From the standpoint of mental hygiene we may recognize broadly three classes of exceptional or problematic children: (1) the mentally deficient, (2) children with special sensory or motor defects which have a tendency to handicap the individual in a mental as well as physical sense—the blind, the deaf, the crippled, and the speech defectives, (3) the mentally abnormal—the psychopathic, the unstable, the delinquent—children with conduct disorder. To what extent do all these problems demand a mental-hygiene service in the pre-school period?

1. Practically every case of mental deficiency originates and is recognizable in the pre-school years. Feebleminded children are frequently misunderstood, mismanaged, and maltreated during the pre-school age, because the parents have secured neither diagnosis nor advice. There should be opportunity for early diagnosis, systematic guidance in home care, and more provisions for supplementary nursery care and nursery training. The feebleminded child of school age is receiving attention through auxiliary schools and special classes. In comparison, the feebleminded child of pre-school age is neglected.

2. The sensory and motor defectives in the aggregate constitute a very considerable group from the standpoint of public hygiene; and here again the child of pre-school age has special claims upon us. An appreciable proportion of all cases of blindness occurs in the pre-school period. Three-fourths of all deaf individuals are so handicapped before their sixth birthday. Of all the crippled, one-third become so before the age of five. Fully 80 per cent of all cases of speech defect, including the serious defect of stuttering, originate before children go to school.

Now in addition to purely medical attention all these children need a special educational oversight and a supervision of their mental welfare. They are entitled to a kind of mental-hygiene service.

Precious time is lost, injustice is done by idle waiting for the school years and the institutional years. The blind child should acquire his elementary habits of deportment and personality during the nursery years; the deaf child should learn to talk in the nursery years; the health of personality in the crippled child should be safeguarded from the first; and speech defects should be discovered and treated in their incipiency.

3. We shall not go to any psychoanalytic extreme in estimating the proportion of cases of mental abnormality which have their roots in the pre-school period. It is sufficient to say that the numerous cases of conduct disorder, perversions, behavior anomalies, which manifest themselves in the nursery years are of too serious import to be ignored. They frequently are the symptomatic heralds of later delinquencies and personality defects. From the standpoint of the public-health nurse and public-health official, it must be thought provoking that

many of the typical conduct disorders of infancy express themselves as perversions of such apparently simple functions as eating, sleeping, elimination, speaking, and obeying. The extremely spoiled child, the morbidly silent, reserved, and timid child, the domestic tyrant, and many unnamed clinical varieties of behavior disorder need timely educational procedure if we wish to lessen some of the bulky burden of nervous and mental invalidism which society now bears. Educational authorities, through increasing applications of special educational, psychological, and psychiatric methods, have addressed themselves to a program of prevention and amelioration. But the most essential and promising area for further operation, lies in the domain of public health, in the pre-school field; and this demands the development of a workable technique which will render a mental-hygiene service, not only to the more, but to the less, abnormal and to the normal pre-school child. Unless we achieve such a technique, pre-school mental hygiene will tend to remain in a tenuous state of aspirational nebulosity.

What are some of the features of a mental-hygiene service, which are at least on the horizon?

Periodical mental health examinations are a discernible possibility. The diagnostic and advisory functions of welfare and health centers should be gradually extended to include the hygiene of mental development. It will take much planning and investigation to work out a proper procedure; but it is time to take conscious steps toward the goal. At the Yale University Psycho-Clinic we have for some time, through the coöperation of the visiting nurses, paid special attention to the youngest age group of children. We have undertaken a program of research to determine the forms of mental or behavior development in children of pre-school age, and to define methods of clinical and social procedure in this field. We have examined some three hundred children at the 6, 9, 12, 18, 24, and 36 months age levels. These investigations are directed toward personality as well as intelligence traits; and suggest the possibility of formulating concrete minimum standards for guidance in a more inclusive program of developmental supervision of pre-school children. I do not think it very urgent that we affix Intelligence Quotients to the babies at milk stations; but I would admit that public health administration and welfare agencies are headed toward a policy of pre-school health supervision, which will be as comprehensive as the best health work in public schools, and which will yet come to include a mental-hygiene service from the cradle to the kindergarten.

The habit clinic, sponsored by the Baby Hygiene Association of Boston, has shown the possibility of doing preventive and corrective psychiatric work in this field. The new nursery schools in Boston and elsewhere will, no doubt, develop a very useful auxiliary service for the mental hygiene of pre-school children. Both nurseries and kindergartens have an important contribution to make.

It is extremely indicative, that a few educational as well as public-health leaders have begun to assert the social significance of the pre-school child. There is evidence that the foundations of the public school system will be dug a little deeper in the interest of public policy. This "no man's land in the field of social endeavor" is being entered from the educational as well as public-health camps.

One of the most suggestive signs of the times is Clause 19 of the famous Education Act of 1918, which confers upon local educational authorities in England, "the power to supply or aid in supplying nursery schools for children over two and under five years of age whose attendance at such a school is necessary or desirable for their healthy physical or mental development."

Under this law, over a score of nursery schools are now being supported by the

state, and a greater number are maintained by voluntary organizations. In this country several experimental and demonstration nursery schools have been established, and there are signs of an interesting nursery school movement. One of these schools, the Merrill-Palmer School in Detroit, correlates its work in a most promising way with a practical course in child care for college students.

There is, as yet, no reason to predict that the nursery school will displace the American kindergarten. It may be hoped, however, that this new movement will put the present kindergarten on mettle and transform it into a more adaptive, health-promoting agency which will perform a bigger and more discriminating work in the field of pre-school hygiene.

It appears, then, that a mental-hygiene service for pre-school children can be realized if we extend and exploit the instruments which we have already at our disposal: (a) the consultation and health center to provide a more systematic supervision of mental development; (b) conferences for the guidance of parents; (c) public-health nurses, psychiatric social workers and pre-school visiting teachers to render more direct assistance in the home; (d) adaptations of nursery establishments, kindergartens, and special classes in behalf of the more exceptional, handicapped, infants; (e) an active alignment of a reconstructed kindergarten with the public-health and child-welfare agencies of the community; (f) an effective type of pre-parental education dealing with the mental hygiene of child care.

These possibilities are above the horizon. They will not all be realized tomorrow, but, perhaps some day after tomorrow the agencies and movements mentioned may be coördinated to render a hygienic service, which will seek to conserve the mental health of the young child, and which will increase his mental stamina.

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The Science of Life.—A new motion picture course of instruction, produced by the Bray Productions, Inc., under the direction of the Surgeon General, United States Public Health Service, entitled, "The Science of Life," provides the first course of visual instruction ever produced to cover the subjects of general biology, communicable diseases and personal hygiene. It is intended for general educational use, and is arranged for showing one-, two- or three-reel units, according to selection. There are thirteen reels, each approximately 1,000 feet in length.

No description could do justice to such a motion picture. Even still pictures on the subject, though interesting, would fall far short of the accomplishment of "The Science of Life," which begins with the earth before life appeared and goes swiftly into the subject of the earliest forms of life through the study of geology. The simplest forms of life of today are shown in exemplification of the probable way life began. Reproduction in lower forms of life is shown by photomicrograph studies and animated drawings, gradually leading on to reproduction in the higher forms. The films on communicable diseases show how plants and animals cause disease, the different kinds of bacteria, how they feed and multiply, and the uses of antiseptics, and methods for prevention and cure. The films on personal hygiene cover health habits for young women, for young men, and general health habits.

Special arrangements can be made for showing these pictures to members of organizations in the projection room of the Bray Productions, 130 West 46th Street, New York City, and special prices are made to those ordering several films.

THE HEALTH OFFICER'S EXCHANGE

Under this head the Journal will print short articles giving accounts of actual experiences, methods and plans which have proved of practical utility in local health organizations, in the hope that health officers and sanitarians generally will find them of interest and value. Health officers and other health workers are invited to submit their experiences. Manuscripts must be limited to 1,500 words, preferably 1,000. The briefer and more concisely written they are, the better the chance of their publication.

SKETCH MAPPING FOR PUBLIC HEALTH PROBLEMS

The public-health officer of today recognizes the necessity of having good maps of the territory under his consideration. Especially is this true in yellow fever, malaria and hookworm studies. It has been found, however, that it is not always possible to obtain reliable maps of all territories, especially in most foreign countries. Therefore it is quite necessary that the public-health officer, whether a physician or otherwise, should know the principles of sketch mapping in order to construct maps sufficiently accurate in scale and represented data to be of use in his work. It is the purpose of this paper to present the subject of sketch mapping in the simplest form possible, following closely the methods employed in the military service of the United States.

In preparing sketch maps of this nature no measuring instruments are necessary other than one's pace or stride, therefore, the pace or stride of the individual must be accurately determined as the basic unit of measure. A pace is the distance from the heel of one foot to the heel of the other foot in walking naturally. A stride is the distance from the heel of one foot to the heel of the same foot as it strikes the ground the second time or, in other words, a stride is equal to two paces. In order to measure one's pace or stride it will be necessary to lay off on the ground an accurately measured distance of say 500 yards, double this distance would be better. This distance should then be paced off at least four times, noting the number of paces each time. The average of these trials will give a fairly accurate result. For example, if the average were 510 paces for a distance of 500 yards, this would make 35.3 inches, the actual length of one pace. A stride would be twice this or 70.6 inches.

Without going into the mathematics of converting this pace or stride into the scale desired on the map as inches to miles or inches to feet, charts P and S may be consulted and the corresponding scale to the figured length of pace or stride is that to be used in plotting the map in the field.

The ordinary scales adopted for use in the military service are 3 inches, 6 inches, or 12 inches to 1 mile. However, by using these scales in uneven feet it will be found more difficult to reproduce enlargements of the field sketch when the case arises. In the engineering profession the ordinary scales used for towns and cities are 1 inch to 1,000 feet, 800 feet, 400 feet or 200 feet. It will be noticed that these scales are multiples of 2 and, therefore, for purposes of enlargement can be easily handled. Hence the scales here chosen for the field or flat sketch maps are 1 inch to 1,600 feet and 1 inch to 800 feet. On the basis of these two scales Charts P and S have been plotted to give the corresponding scales of paces or strides for any length pace or stride.

In case a field sketch is made on the scale of 1 inch to 800 feet or 1 inch to 96,000 inches (i. e., 1 inch on the map equals 96,000 inches on the ground) it would be found to be too small for detail, spotting of houses or other similar features, but since this sketch is made on cross section paper it can easily be enlarged by the coördinate method to twice, four times and eight times its size, as the case may be, to reproduce a sufficiently large map. In Fig. 1 is shown the method of enlargement by the coördinate method. The original field sketch is on the scale of 1 inch to 800 feet plotted on cross section paper, it is desired to enlarge this sketch to twice its size, or to the scale of 1 inch

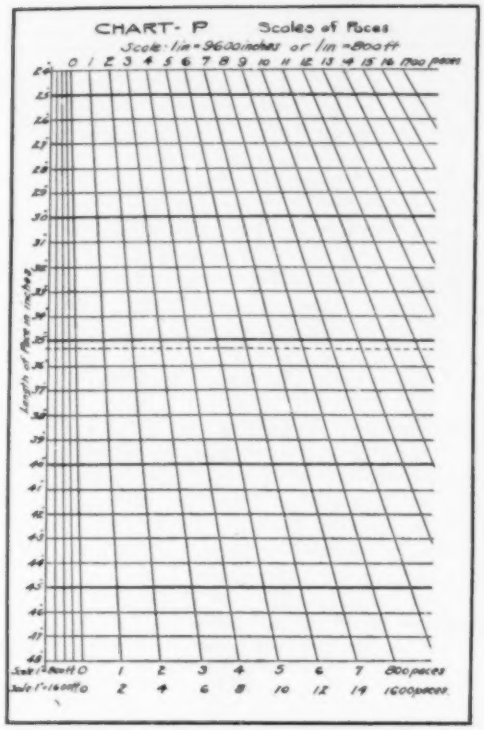


CHART- P Scales of Paces
Scale: 1 in = 3600 inches or 1 in = 800 ft.
Length of Pace in inches
Scale 1" = 800 ft. 0 1 2 3 4 5 6 7 800 paces
Scale 1" = 1600 ft. 0 2 4 6 8 10 12 14 1600 paces

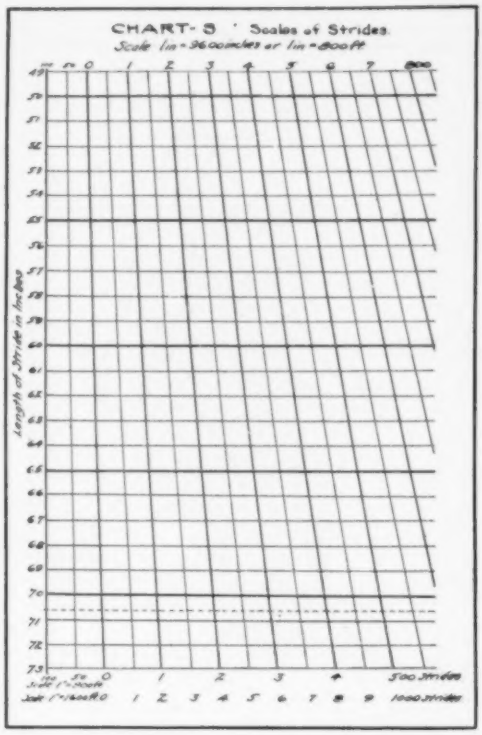


CHART- S Scales of Strides.
Scale 1 in = 3600 inches or 1 in = 800 ft.
Length of Stride in inches
Scale 1" = 500 ft. 0 1 2 3 4 500 strides
Scale 1" = 1000 ft. 0 1 2 3 4 5 6 7 8 9 1000 strides

to 400 feet. This is easily done by doubling the coördinates as represented in the figure.

MATERIALS NECESSARY FOR MAP SKETCHING

The Board: A perfectly smooth soft pine board, preferably 14 inches by 13 inches with absolutely squared edges is necessary, to which must be attached a small compass needle. A small watch compass is excellent for this purpose and may be affixed to the board by cutting a hole the size of the compass in order to hold it in a fixed position at all times. Place the compass in such a position as to have the north and south line parallel to one edge of the board. (See Fig. 2.)

The Alidade: The alidade is simply a small triangular piece of hard wood weighted with lead inserted in a small hole in the end to give it weight. It should be about 6 to 8 inches in length and have smooth surfaces on which to mark the various scales. This triangular scale or alidade is used as a sighting instrument and rests on top of the board (See Figs. 2 and 3).

Paper, Pencil and Thumbtacks: Any good grade cross section or profile paper may be used, preferably ruled in one inch squares and divided into tenths. A pencil of hardness 4H is the best for field use. Thumbtacks are necessary to hold the paper in place on the board.

PREPARING THE SCALE FOR USE ON THE ALIDADE

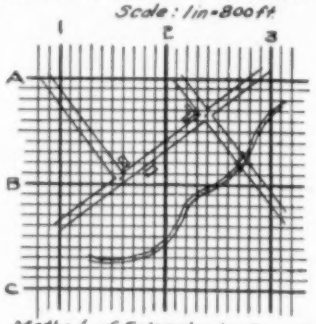
As stated above, the length of the pace determined was 35.3 inches. Therefore, placing the alidade along the line on the Chart P corresponding to 35.3 inches, transfer the divisions of this line to one edge of the alidade. (In this case see the dotted line on Chart P.) This scale then will represent a scale in paces equal to 35.3 inches to correspond to the map scale of 1 inch to 800 feet. If the stride scale is preferred, and it is believed the scale of strides will be found more convenient, the dotted line on Chart S can be used, which is 70.6 inches as figured above. On the other edge of the alidade, directly opposite this pace or stride scale, lay off another scale in inches, this latter to be used in reading and scaling the map in the office.

METHOD OF SKETCHING THE MAP IN THE FIELD (FLAT SKETCH)

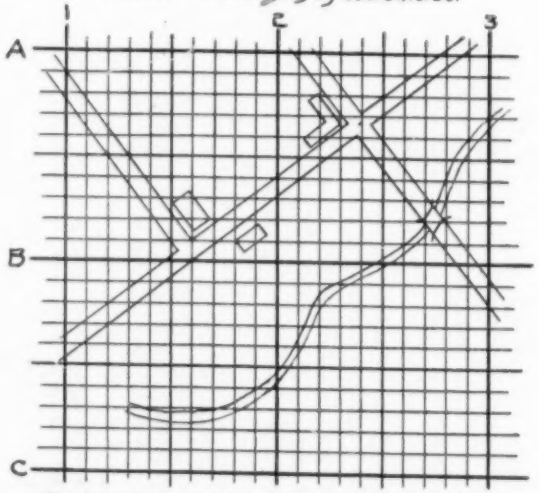
Assuming the sketching board is prepared with cross section paper and compass, select a suitable point from which to start the sketch, preferably at the intersection of two streets on the extreme edge of the area to be mapped. With this as a starting point hold the board in such a position as to have one edge in a line parallel to the north and south line as shown

Fig. 1

Field Sketch of town on Cross Section Paper.
Scale: 1 in = 800 ft



Method of Enlarging by Coordinates.



Field Sketch same as above enlarged to two times
Scale: 1 in = 400 ft.

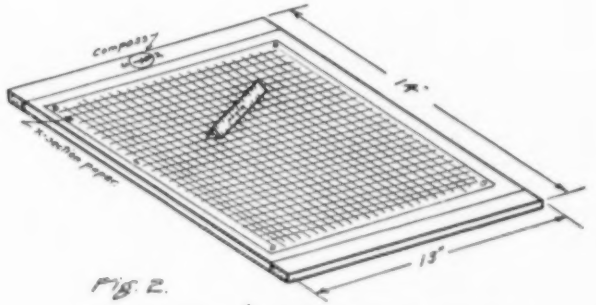


Fig. 2.

Sketching board with Compass attached and paper in position.

Fig. 3

Combination Triangular Scale and Alidade

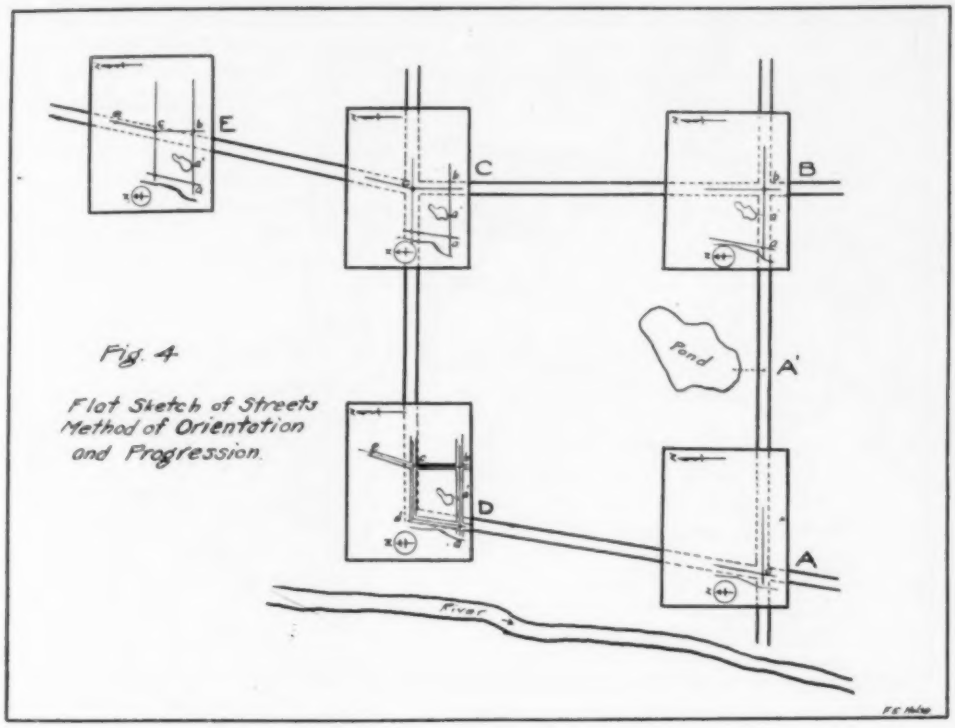


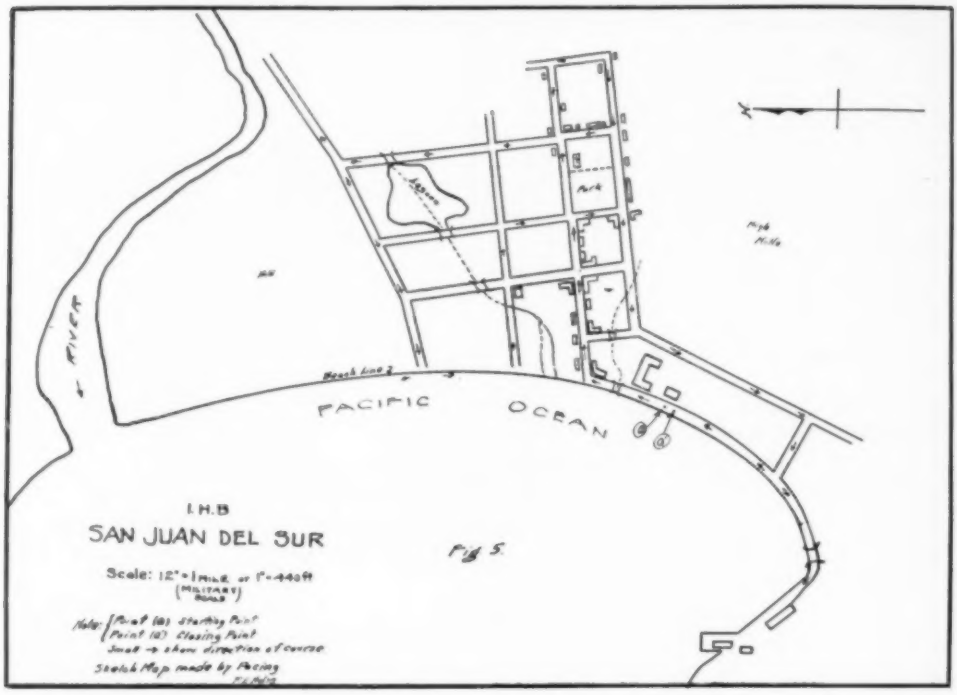
Fig. 4

Plot Sketch of Streets
Method of Orientation
and Progression

by the compass needle. Now draw a line on the edge of the map in the north and south direction marking the north end N. In all future positions when taking sights and readings be sure that the board always points in the same direction, namely, north and south, parallel to the compass needle. This placing the board in the N and S line at each new position is known as orientation.

Figure 4 represents a portion of a town which it is desired to map, and shows intersecting streets A, B, C, D and E. Since point A is on the extreme edge of the town, assume this as a starting point. Holding the board in the hands take position at A, orient the board until the N and S line on the map points north as indicated by the compass needle, the mark (a) on the map. Now (a) on the map corresponds to A on the ground. Facing in the direction of B, place the alidade with one edge along point (a) on the sketch and sight along the top edge to B, drawing a line in the direction of B indefinite in length. Without changing the position of the board, do the same for point D. Now from point A on the ground pace off the distance to B and with the pace scale on the alidade plot this distance on the sketch. Now with point (b) on the board over B on the ground, orient the board and sight to point C and in all other directions if at a street intersection, drawing the lines of directions on the sketch. After pacing to C and plotting the distance on the sketch, orient at C and repeat for points D and E. In this manner the sketch progresses from point to point with the board always in the same position with respect to the N and S line. The distance from point D to point A is the closing line and acts as a check on the accuracy of the sketch. At the same time that these distances are being paced off all important features along the streets may be noted by plotting the number of paces along the line and sighting at right angles to the line, recording the distance in paces to the object. For example: In Fig. 4 midway between points A and B is a pond, point A'. In pacing from A to B when opposite this pond at point A', plot the number of paces on the sketch, orient the board and sight to the pond, pace and plot as before. In this manner houses and other important features may be plotted on the sketch as it progresses.

Fig. 5 is a sketch map made in this manner, the starting point being at point (a) and the closing point at (a') the direction of the course



taken being represented by the small arrows in the streets. The closing distance or difference is very small, considering the errors that might be present in inaccurate pacing, etc.

It is to be noted that sketch maps of this nature are plotted in the position of north and south as given by the compass needle which is not the true north, the north of the compass being known as the magnetic north. Therefore, this should be noted on the map.

The above is the method of preparing flat sketch maps without regard to differences in elevation and other topographical features. Contours or imaginary lines of constant elevation are not necessary in the ordinary spot maps used in public-health work, except in the case of malaria studies where the differences in elevation are vitally important for the purpose of determining drainage courses. Such maps for malaria control should, therefore, be prepared by an engineer with accurate instruments. For those who have the desire to acquaint themselves with the methods of plotting contours it is suggested that they obtain the little book published by the United States Infantry Association: *Military Sketching and Map Reading* by Grieves. The above publication was used as a reference in preparing this paper.

F. E. HULSE,
Sanitary Engineer,
International Health Board.

PSYCHOLOGY IN RURAL PUBLIC HEALTH WORK

Men without scientific training usually do not properly comprehend the principles upon which scientific knowledge is based and are inclined to regard opinions founded upon such knowledge as mere individual opinions or deductions as a result of personal observations. In consequence they regard themselves equally competent to express opinions upon scientific subjects as those who are qualified by knowledge and training in their special lines of activity. If, however, you can enter into an intelligent discussion of subjects with which they are familiar, you will be able to gain their confidence and respect for the opinions which you desire to give them. The following is an illustration:

At one time I arranged for a meeting of a board of health in a remote rural community. The board was composed entirely of farmers who from their environment had had little opportunity of mingling with people

of other pursuits. The purpose of this meeting was to secure the adoption of a sanitary code, to which I was warned there would be great opposition. I therefore planned to have a short conference with the members before the meeting was called. The meeting was held in the season of the year when all of them were engaged in sowing peas. Owing to the fact that my father was a pioneer in the raising of garden peas, I was familiar with the different varieties and the relative seasonal value of each. By the discussion of this subject I was able to gain their confidence to the extent that I was invited to some of their homes to sample their varieties when they were ready. By thus gaining their confidence I was able easily to secure the passage of the resolution.

"SI. COLOGY."

CHRISTMAS AND THE DOUBLE-BARRED CROSS

Everyone who buys Christmas seals becomes a working partner in the campaign to stamp out tuberculosis. Every seal bears a message of vast accomplishment and tells of the faith of those who started the nation-wide crusade against this disease. That the work has been successful cannot be doubted when it is realized that in those years in which seals have been sold the death-rate has been cut in half.

Fifteen years ago, having read of the Christmas stamps sold in Denmark for the support of a children's hospital, Miss Emily P. Bissell, at that time secretary of the Delaware Red Cross Chapter, conceived the idea of raising funds for anti-tuberculosis work in the same way. She started with but $40, secured from two friends, and that year $1,000 was obtained in this way and paid on the site of the first tuberculosis sanatorium in Delaware, known as Hope Farm.

The aim has always been to spread to the public information regarding prevention. Through Miss Bissell's demonstration and efforts, the American Red Cross decided to take up the enterprise on a nation-wide scale the next year, 1908.

The 1919 seal was the first to carry the double-barred cross, which specifically symbolized the fight against tuberculosis, and is the emblem of the National Tuberculosis Association. This year the seal is symbolic of the helpful guardianship of this cross over the children of our country.

Sixteen years ago the death-rate was 200 per 100,000 in the Registration Area, and it is now but 100 per 100,000, which means a saving annually of 100,000 lives.

Christmas Seal money is used for increasing the number of tuberculosis hospitals and sanatoria, which in 16 years has increased from 100 to 700; for establishing clinics and dispensaries; securing special tuberculosis nurses who instruct the mother and family in the home; for research work and statistical study; for publicity; for the Modern Health Crusade, which has enrolled 8,000,000 school children who are learning daily health habits; toward securing over 3,000 open-air schools and preventoria.

Though tuberculosis is a preventable disease, there are at present over 1,000,000 active cases in this country, and probably as many inactive cases. If everyone can be taught to live a healthy life with proper food and rest, this dread disease can be wiped out.

Over 1,000,000,000 seals will be in circulation this December. This is the chance for everyone to participate, because every seal bought helps. The seal carries a cheerful thought to the recipient of package or letter; and possibly reminds someone else that he, too, may do something to help those less fortunate than himself. Buy seals in December and let every package or letter carry the message of hope and health that is hidden therein.

EDITORIAL SECTION

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DR. HENRY F. VAUGHAN TO EDIT THE JOURNAL

Mr. Kenneth M. Gould, who, during the last year, has given very capable service as Associate Editor of the *Journal,* has resigned in order to accept a position with the Rockefeller Foundation. Members of the Association will receive with much satisfaction the news that the Executive Board has voted to place editorial policy and control in the hands of Dr. Henry F. Vaughan, whose noteworthy record as Commissioner of Health of Detroit has placed his department in the foremost rank of municipal health departments.

No less gratifying is the announcement that Dr. Mazÿck P. Ravenel, a former President of the Association, has consented to assume primary responsibility for the editorial section.

At their own request, Drs. Vaughan and Ravenel will serve without remuneration.

Surely, few, if any, workers in the public-health field could be more admirably adapted to their work than new editors. The *Journal* bespeaks for them, the coöperation of every member of the Association, and confidently predicts that, as a result of their participation, the *Journal* will become a more helpful stimulus to public-health development, than ever before.—A. W. H.

TOWARD A PROFESSION OF PUBLIC HEALTH

The adoption by unanimous vote in an open meeting of the Association at Cleveland, Monday evening, October 16, 1922, of the Report of the Committee on Reorganization, Dr. Henry F. Vaughan, chairman, marks the beginning of a new epoch in the history of public health in America, as it assuredly does in the history of the A. P. H. A. The report is printed elsewhere in this issue, together with the amended Constitution and By-Laws, which embody the recommendations of the Committee.

Far-seeing observers of the evolution of the public-health movement have felt for years past that the only solution of the many vexing problems involved was the placing of public health on a truly professional basis and the education of the laity to a full recognition of the need for such a profession, with all that it implies of scientific authority, specialized training, preventive point of view, adequate remuneration, safe tenure, and public support by governmental appropriations and an enlightened citizenry. By its recent action the Association has taken an essential step toward carrying out its part of this program. The educational campaign must now be pressed with equal vigor.

The central feature of the new constitution is the establishment of the fellowship, composed of members of the Association in good standing for two years or more, who, in the judgment of their colleagues, are qualified by training, experience, and achievement to become the leaders of the new profession. Voting power will be limited to the Fellows; and officers of the Association and of the sections, as well as chairmen of committees, must be selected from among the Fellows. After a painstaking investigation, about five hundred names were chosen by the Governing Council at Cleveland to form the first group of Fellows, a list of whom will be published in the next issue of the *Journal*. This does not mean that the Fellowship will be an exclusive body. Hereafter applications for Fellowship will be considered by the Councils of the various Sections representing the specialty with which the prospective candidate is affiliated. It is expected that new Fellows will be created each year as they fulfill the necessary qualifications.

It was voted to reduce the number of members of the Governing Council elected at large from 45 to 30, and for compensation to include in the Council the chairman, vice-chairman, and secretary of each of the recognized Sections of the Association, instead of a single representative of each Section as formerly. The Sections and the parent body will thus be kept in closer and more effective contact.

Membership in the Association will still remain a coveted privilege, carrying with it the receipt of the *Journal*, and being limited to junior members of the profession actually engaged in official or non-official health work. Persons who are interested in public health, but not as professional workers, may become Associate Members. Provision is also made for Honorary Fellows, Sustaining Members, and affiliated state public-health societies.

There are other minor changes in the Constitution, all of which deserve the study and support of the whole membership. The Association's main objectives are delimited and set forth as "the preparation and publication of standard scientific procedures in public health," toward which a promising start has already been made in the various Standard Methods of the Association and with more recent Municipal Health Department Practice Report.

AN AWAKENING

The awakening of an appreciation by the general public of the importance of sanitary science has long been one of the goals of sanitarians. Judging from recent use of health material and plans for further utilization of it by prominent popular magazines, such an awakening seems to be in the incipient

stage, at any rate. The *National Geographic Magazine* for September carried an article entitled "Map Changing Medicine"; *Leslies'* has been writing up the chiropractors, and the *Atlantic Monthly* published in its July number an article on "Osteopathy, Chiropractic, and the Practice of Medicine"; *Current History* has for its feature article in November a story called "For the Health of the World," by one of our own editorial assistants; and numerous other magazines, such as the *Century, Harper's,* the *American, Woman's Home Companion, Good Housekeeping,* and even *Hearst's* are using material on public health.

Added to the articles are announcements of several popular magazines devoted to health. Doubleday Page has begun to issue a monthly, *The Health Builder;* the American Medical Association expects to put out a popular health magazine early in 1923; while another national magazine devoted to health has been issued in Chicago for several months. Other important advances include the assumption of the editorial chair of the *Nation's Health* by Professor C. E. A. Winslow of Yale, and the appointment of Dr. Haven Emerson as health editor of the *Survey.*

These ethical health journals are greatly needed to offset the unscientific buncombe put out by certain faddists and physical culturists, which, apparently authentic to the layman more or less ignorant of sanitary science, does more harm than good.

This new interest displayed by publishers in the field of health may not be *the* great awakening of a national sanitary consciousness to which all sanitarians hopefully look forward, but it is a most worthy beginning and *an* awakening of great promise.

□

ASSOCIATION NEWS

NEW GOVERNING COUNCIL

At the Cleveland meeting, an entirely new Governing Council was elected as a part of the Reorganization program. A complete list of the members of the new Governing Council is published on the first advertising page on white paper in this issue.

OUR NEW PRESIDENT

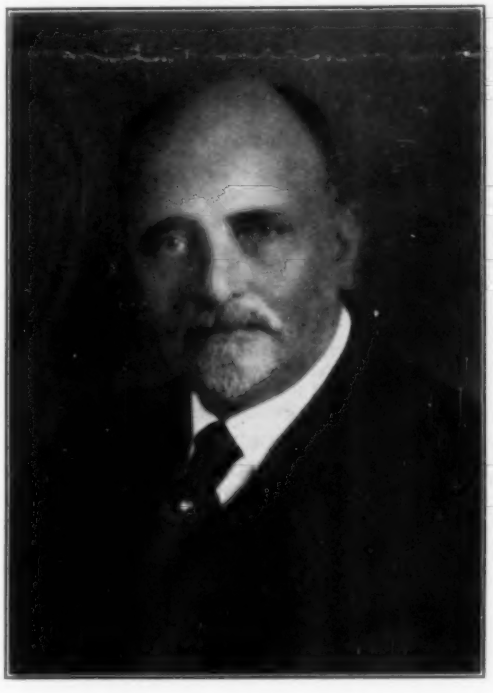
Dr. Ernest C. Levy, who was elected President of the American Public Health Association at its Cleveland meeting, was born in Richmond, Va., on August 11, 1868. His great-grandparents came to the United States from England in 1818, and, after a few months, settled in Richmond, where his family has resided continuously ever since that date.

After graduating from the high school, in 1884, Dr. Levy spent three

years at Richmond College. He graduated in medicine from the Medical College of Virginia in 1890, and then spent several months in special laboratory work at the College of Physicians and Surgeons, in New York. For the next two years he was on the house staff of Mount Sinai Hospital, New York.

In 1892, he entered general practice in Richmond, giving this up in 1897, when he was elected Professor of Histology, Pathology and Bacteriology in the Medical College of Virginia, which position he held until 1900. For the same period he was editor of the Medical Register.

In 1899, Dr. Levy was engaged by the city of Richmond to conduct certain bacteriological studies in connection with a proposed system of water purification. In the course of this investigation, he became attracted to the



E. C. Levy, M. D.

held of public health, in which he has been exclusively engaged ever since—a period of twenty-three years.

In 1902, he entered the Massachusetts Institute of Technology as a special student in biology and public health, under Prof. Sedgwick, who, three months later, advised him to accept a position under Mr. George C. Whipple (now Prof. Whipple) in making an extensive study of the water supply of Waterville, Maine. This lasted until November, 1903, and Dr. Levy then returned for further special work at the Massachusetts Institute of Technology.

Dr. Levy returned to Richmond in June, 1904, to conduct further experimental studies of the city's water supply. In December, 1905, he was ap-

pointed to the newly created position of City Bacteriologist, and, in July, 1906, he became Chief Health Officer of Richmond, under a reorganized health administration.

His record as Chief Health Officer of Richmond is well known. Besides completely reorganizing the health work of the city and putting it on a proper basis, he personally made a number of important contributions to the general fund of knowledge in the field of public health. His special studies of southern typhoid and infantile diarrhoea and his work in connection with fly-breeding and control are particularly well known and have become accepted practice.

Dr. Levy's work in the sanitary control of Richmond's milk supply is generally regarded as having given that city the best milk supply of any city in the United States. In 1911, he was selected by the New York Milk Committee as one of twenty experts, chosen from the entire country, to constitute the National Commission on Milk Standards. He is one of the fourteen original members of that body who are still on the Commission.

When Dr. Levy became Chief Health Officer of Richmond, in 1906, he was the only technically trained sanitarian in the South devoting his whole time to public health. His work in Richmond was a leading factor in giving a start to the great development in public-health work which has since taken place in that section of the country.

In August, 1918, Dr. Levy entered the United States Army, as Captain in the Medical Corps, and was assigned to Camp Pike as Camp Epidemiologist. He was commissioned Major two months later.

In January, 1919, he resigned from the service to accept the position of Director of Public Welfare in Richmond, under its new form of government. This office he now holds. His department has under it the Bureaus of Health, Hospitals, Charities, Relief, Employment, Markets and Public Baths.

Dr. Levy has been a member of the American Public Health Association since 1904. When the Section of Municipal Health Officers (now the Section on Public Health Administration) was organized in 1908, he was elected Secretary, which office he held for eight years, until elected Chairman of the Section in 1916. He was a member of the old Advisory Council for many years, and has been almost continuously a member of the Board of Directors (now the Governing Board), and frequently a member of the Executive Committee, under its various names. He has attended all but two of the nineteen annual meetings of the Association which have been held since he became a member in 1904—the Mexico City meeting in 1906, when he had just become Chief Health Officer of Richmond, and the Chicago meeting in 1918, when he was in the Army.

Any statement concerning Dr. Levy's useful career would be incomplete without a word as to his service as a builder of men. In this regard, we can do no better than to quote a recent editorial from the *Richmond News Leader*:

"A very important part of his career has been his relation with younger men. When he undertook to organize a modern health department in Richmond, he had to train his staff. He adopted the practice of employing a young physician as Medical Inspector and of equipping him to be his assistant. He conducted in effect the first school of public health in the South. His 'pupils' in every instance were called to assume larger duties."

RESOLUTIONS

Presented by the Resolutions Committee: Dr. Haven Emerson, *Chairman*, Dr. Watson S. Rankin and Dr. Isaac D. Rawlings, and adopted by the American Public Health Association at the Fifty-first Annual Meeting, Cleveland, October 18, 1922.

STEPHEN SMITH ADDRESS

1. The Committee on the Stephen Smith Address offers the following preamble, resolution and message to the public:

WHEREAS the death of Dr. Stephen Smith, an illustrious founder of this Association, has deprived the profession of preventive medicine and the practitioners of public-health administration of a devoted student and a wise counselor, and the people of all nations of a physician who consecrated himself to the health of others; and

WHEREAS his last request and advice to this Association a year ago was: 1. To seize the opportunity of placing the public health on a more scientific basis; 2. To replace the scriptural ideal of longevity by one more consonant with our present reasonable belief; 3. To send messengers of hope in a new scientific standard of long life throughout the world in schools, churches and legislative halls by word and press and film; therefore, be it

RESOLVED that the American Public Health Association send forth today the following statement of the accomplishment and promise of health protection:

As our governments, our social order, our religious customs depend for their strength upon the integrity and continuity of the family, we may well call attention to a result of public-health services even more brilliant than the astonishing sum of lives saved; namely, the addition of many years to the length of happy, healthy lives.

A civilization that can safeguard the lives of its parents and wage-earners, until the children have been launched in full physical and mental maturity upon their independent home building, has made notable progress.

Within the past seventy-five years the average duration of human life has been extended by not less than fifteen years in many of the great nations of the world.

Furthermore, the gains in length of life have been greater in the past twenty years than in the previous fifty. The improvement in the prospect of long life is not only continuing but at an accelerated rate.

Nor is there reason to doubt the certainty of still further great additions to the expected span of life for those peoples who read aright and understand clearly the lessons of science.

Using the best past experience of some of the progressive nations, we can see that already an average length of life of sixty-five years can be promised to those communities who will best apply what is already well tested knowledge of health protection.

From a span of forty years in the England and Wales of 1840-50, we have already passed to one of sixty in some of our United States in 1920. And yet we have but to use for all our people the measures here and there applied for the benefit of the various age groups, to see at least five years more of life in our hands for the asking.

In New Zealand they have all but attained for their people an average length of life of sixty-five years, and this is ten years more than we reached in the Registration states of the United States in 1920.

In England seventy-five years ago, one-quarter of all those born, died before they were three and one-half years old; one-half died before they were forty-four and one-half years old, three-quarters died before they were sixty-eight and one-half years old. While ten years ago it was not until the age of thirty-three and one-half that one-quarter died; not until sixty-one and one-half years that one-half died, and not until seventy-four that three-quarters died.

In New Zealand in the years 1906-10 one-quarter of those born did not die until the age of forty-eight and one-half years, one-half until sixty-eight and one-half years, and three-quarters until the age of seventy-eight.

It is the opinion of the American Public Health Association that the maximum life expectation is far from having been attained, even with no further additions to our knowledge of the cause and means of prevention of disease.

By adding to scientific control of communicable diseases and the protection of infancy, the avoidance of disorders of nutrition and the degenerative diseases of middle age we may well promise the attainment in the next fifty years of a span of healthy life beyond the scriptural ideal of three score years and ten.

As we now measure the conscience and effective intelligence of communities by their care of infant life, we shall in the future test the faith of our people in science, and their courage in performance, by the lengthening span of life they win for the mothers and fathers of the nations.

We, the health workers of our communities, are confident that there is nothing inherently impracticable or extravagant in the proposal we make that many nations may attain such knowledge of the laws of health, appropriate to each age and occupation, to each climate and race, that within the next fifty years as much as twenty years may be added to the expectancy of life which now prevails throughout the United States, and to this goal we dedicate the efforts of our Association as urged by our departed leader, Stephen Smith, confident that an informed

and convinced public will give the best assurance of success.

HERMANN M. BIGGS.
LEE K. FRANKEL.
HAVEN EMERSON, *Chairman.*

October 18, 1922.

2. THANKS TO CLEVELAND

RESOLVED that the American Public Health Association express its gratitude to the mayor of the City of Cleveland, and to the directors of the bureaus of his administration, to the local committee of arrangements, to the Cleveland Chamber of Commerce, and to the management of the Hotel Statler, for the care they severally have taken of the interests and comforts of the members attending this, the fifty-first annual meeting of the Association and to the many friendly and hospitable people of the community of Cleveland for making our work here the more profitable and our pleasures the more enjoyable.

3. ANIMAL EXPERIMENTATION

RESOLVED, that the American Public Health Association, now convened in the City of Cleveland, records its conviction that experiments on living animals have proved of the utmost service to the public health in the past, and, therefore, to civilization, and are indispensable to the future progress. Be it further

RESOLVED, that the American Public Health Association is unanimously opposed to the passage of H. R. 12605, and that a copy of these resolutions be furnished the Military Committee of the Senate of the United States and the House of Representatives; and

RESOLVED further, that the President of the American Public Health Association be authorized to appoint a standing committee of five, to be known as the Committee on the Defense of Research, to take such action as will in its judgment safeguard standard routine laboratory methods of procedure, and animal experimentation, from all causes and conditions calculated to prevent or hamper the development of methods for the diagnosis, prevention, cure and treatment of disease, and for the protection and the promotion of the health of human beings and domestic animals.

4. STANDARDS FOR THE PRACTICE OF HEALING

RESOLVED, that it is the sense of the American Public Health Association that there should be but one standard of fitness for all who desire to practice the healing art, and but one channel through which persons desiring to practice that art may obtain licenses so to do.

5. PUBLIC HEALTH COURSES IN MEDICAL SCHOOLS

RESOLVED, that medical schools be urged to include in their curriculum a minimum of seventy-two hours for the study of public health and preventive medicine, preferably in the third or fourth year of their undergraduate course. That the teaching be in part clinical, and that special emphasis be placed upon education in the means of lessening infant morbidity and mortality. That a copy of this resolution be sent to the deans of all medical schools of the countries represented in the Association.

That a committee of five be appointed by the President of the Association to report at the next annual meeting upon the time now devoted to such studies in the medical schools, their adequacy, and the text books recommended.

That this committee further outline and report a model course of instruction in public health and preventive medicine, together with a list of such text books as are considered of special value.

6. SCHOOL INSTRUCTION IN HEALTH HABITS

RESOLVED, that the American Public Health Association urge all schools to adopt and put into practice a systematized, graded practical course in health habits, and health instruction, persistence in one, and progress in the other, to have the same relation to general scholastic standing as adequacy in any other major subject in the school curriculum.

That a copy of this resolution be sent to all state and provincial superintendents of schools, and to superintendents of schools of cities of the first class, to the National Educational Association, and to presidents of all colleges and universities;

That a committee of five be appointed by the President to report at the next meeting of the Association upon the progress already made towards adequate health teaching in the schools; upon legislation bearing upon this subject, upon text books now used, or recommended by the committee for school use and upon outlines of such courses in health teaching as have already been prepared and put into use.

7. STUDY OF PNEUMONIA

Inasmuch as the mortality from acute respiratory diseases is an important and urgent problem calling for control; be it

RESOLVED, that a committee of ten Fellows and Members of the American Public Health Association be appointed by the President for the purpose of studying the incidence and mortality of pneumonia and the means for the prevention and control of this disease, and report to the Association from time to time, the results of their researches.

8. MUNICIPAL HEALTH DEPARTMENT PRACTICE REPORT

RESOLVED, that the grateful appreciation of the Association be expressed to the Metropolitan Life Insurance Company for its generous gifts of funds and services which made possible the work of the Committee on Municipal Health Department Practice;

And that the thanks of the Association be extended to the officers of the United States

Public Health Service and to the health officers of the various municipalities through whose coöperation the study was made effective.

9. LOUIS PASTEUR

Louis Pasteur was born on December 27, 1822.

After his preliminary education, he took up chemistry as his life work. The rotation of light by crystals early attracted his attention, and his demonstration of the part played in the phenomenon by molecular dissymmetry gave him wide reputation among scientists.

In studying the change from neutrality to rotation which sometimes took place, his attention was drawn to the part played by microorganisms, and from this developed the investigation of fermentative processes. In rapid succession came his studies of fermentation of milk and diseases of wines and beer. The question of succession of spontaneous generation was immediately raised, since all fermentative processes were at that time attributed to the action of oxygen.

The importance to preventive medicine of his demonstration that spontaneous generation of disease does not exist cannot be exaggerated, for on this the entire foundation of modern preventive measures in communicable diseases is based.

The relation of fermentative and putrefactive processes to disease was evident to him, and the transition to the study of disease was a natural one.

Time does not permit a recital of the many discoveries which followed in rapid succession. We must remember, especially, however, the demonstration of the action of germs in the production of disease, the introduction of antiseptic surgery by Lister, through the application of these discoveries, the discovery of bacterial vaccines, and their application in chicken cholera, anthrax, rabies and other diseases.

In view of the debt owed to Pasteur by the world, and particularly by those interested in public health, this Association desires to render its homage to the memory of this great scientist and man, as one of the very greatest benefactors to the human race who has yet lived.

The President is requested to publish these resolutions, to spread them upon our minutes, and to send a copy to the director of the Pasteur Institute in Paris.

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10. IN MEMORIAM

RESOLVED that the American Public Health Association record its admiration and respect for the past services to the cause of public health given by the following members of our Association, and its full appreciation of the loss sustained by the public and our profession in their deaths.

Alexander R. Craig, M. D., Chicago, Ill.
John F. Croston, M. D., Haverhill, Mass.
John A. Graham, Brandentown, Fla.
Wm. Horace Hoskins, D. V. S., New York, N. Y.
D. K. Jones, M. D., Wooster, Ohio.
Walter Lindley, M. D., Los Angeles, Calif.
Preston B. Loftin, M. D., Beaufort, N. C.
Sherman Lull, M. D., Waubay, S. Dak.
Charles R. Mahady, M. D., Rome, N. Y.
J. H. McCormack, M. D. Louisville, Ky.
Jules Schevitz, Oklahoma City, Okla.
Stephen Smith, M. D., Montour Falls, N. Y.
Frederick Angier Spafford, M. D., Flandreau, S. Dak.
E. B. Starr, M. D., Columbus, Ohio.
Bingham Stone, M. D., Burlington, Vt.
James G. Turner, M. D., Houghton, Mich.
Solomon Wolff, New Orleans, La.
Francisco Xavier, L. M., Cebu, P. I.

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LIST OF MEMBERS

Proposed for election to the A. P. H. A. October 1 to October 31, inclusive

Names of Sponsors are set in **Bold Face Type**
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Wallace J. Benner, Lakewood. Health Commissioner.

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Adriel W. Ely, Erie. Ex. Secy. Erie Co. Anti-Tuberculosis Society, Pa.

W. R. Batt, M.D., Harrisburg, Pa.
Edward Martin, Harrisburg. State Commissioner of Health, Pa.

VIRGINIA

E. G. Williams, M.D., Richmond, Va.
Mary Evelyn Brydon, M.D., Richmond. Director Bureau of Child Welfare, State Board of Health, Va.

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List of Mosquitoes of the United States.—The United States National Museum has issued a bulletin (No. 2447) which has also been reprinted by the U. S. Public Health Service, giving a list of several hundred mosquitoes under their generic, sub-generic, specific and sub-specific names, with complete anatomical and structural description. The life history is given, including favorite breeding characteristics, habits of imagoes, notes as to disease-carrying potentialities and distribution over the United States with records as to state, locality, date and name of investigator reporting the specimen. A complete key is given to the tribes and genera of the mosquitoes of this country, also reference index.

An abstractor in the *Public Health Engineering Abstracts* states that "This reprint is a most valuable reference work to one engaged in mosquito control or research work, particularly to those maintaining a laboratory and specializing on differentiation of species." (J. A. T.)

EMPLOYMENT BUREAU

HELP WANTED

Help wanted announcements will be carried free in this column until further notice. Copy goes to the printer on the 10th of each month for publication on the 20th. Mail to New York office as early as possible.

In answering keyed advertisements, please mail replies separately to editorial office in New York City. In replying give age, professional training, salary requirements, previous positions held and three or more references.

Wanted: By a commercial laboratory near Chicago, an energetic young man, college graduate preferred, whose training has qualified him to do bacteriological work. This is an exceptional opportunity for the right man. Address 505 H. C. R., care of this JOURNAL, New York address.

Wanted: Superintendent in office of an anti-tuberculosis league in a middle western city. Salary $3,000 per year or more for the right man. Address 504 S. M. M., care of this JOURNAL, New York address.

Wanted: A young man with a degree in medicine, with good personality, and who has the fundamental knowledge of communicable diseases, their methods of treatment, and methods of prevention and control, to take charge of the epidemiological work of a state health department in the middle west. Salary, $3,000 per year. Address 506 K. F. W., care of this JOURNAL, New York address.

Wanted: Competent editor for health journal. State age, experience and salary expected. Give full details in first letter. Address 507 A. B. C., care of this JOURNAL, New York address.

POSITIONS WANTED

Positions wanted announcements will be carried in this column. The charge is $2 per insertion. Copy should be received at this office by the 10th of the month.

Wanted: Position by clinical pathologist and bacteriologist. Ph.D. with ten years' experience. Government as well as private references. Address 233 N. C., care of this JOURNAL, New York address.

Wanted: Position as city or county full-time health officer by physician, college training, two years internship, two years government health work; post-graduate work Chicago, two years general practice. Excellent references. Minimum salary, $2,400. Address 232 K. R. G., care of this JOURNAL, New York address.

Wanted: Position in health department. Man aged 34 years, married, three years' experience as local health officer and six months experience in sanitary work in Army, desires to make change. Holds M. D. degree, 1910. Good references. Salary must be at least $3,500. Address 234 F. L., care of this JOURNAL, New York address.

Wanted: Health officer of prominent city near New York, wishes position in commercial or industrial field. Holds degree from recognized school of public health. Ex-member of U. S. Public Health Service. Good executive, experience in writing and public speaking. Wide acquaintance among health workers and sanitary engineers. Address 235 A. S. B., care of this JOURNAL, New York address.

Wanted: Position in health department of some state, county, city or industrial concern by an experienced health officer. Age 43. References exchanged. Address 236 O. G. J., care of this JOURNAL, New York address.

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Household Filters for Water Supply.—If a public water supply is properly handled so that it is sanitary and of satisfactory physical appearance, there is no need for household purification devices, according to M. W. Cowles of the Illinois Department of Health. He outlines and describes various kinds of household and commercial mechanical filters, illustrating various types with photographs. *Health*, May, 1922. (J. A. T.)

BOOKS AND REPORTS REVIEWED

The Story of Drugs. *Henry C. Fuller. New York: The Century Co., 1922. Pp. 349, illustrations and index. Price, $3.00.*

This is the fourth volume of a series of books intended for popular information reading, entitled "The Century Books of Useful Science." The three preceding were: *Creative Chemistry* by Edwin F. Slosson; *Artificial Light* by M. Luckiesh, and *The New Stone Age* by Harrison E. Howe.

This is the first attempt in popular scientific literature to give information to the public relating to the preparation of medicines on the large scale. The chapter headings are illuminating as to the scope of the work and are as follows:

1. What drugs are and where they come from.
2. Beginnings and accomplishments of the medicine industry.
3. How medicines are made.
4. The rôle of alcohol.
5. Farming for medicine.
6. Patent medicines: Their place in the economy of the nation.
7. Nature's gift to mankind.
8. Vaccines and serum therapy.
9. In the spirit world of medicine: Vitamines.
10. Dope and not dope.
11. Self medication: The family medicine chest.
12. Paint, powder and rouge: The height of the complexion.
13. Hay fever: The malady of strenuous America.
14. Legislation and its effect on the drug business.

The author has had years of experience as a pharmaceutical chemist which has brought him into close touch with almost every phase of the industry and he has a facility of expression and a gift of making clear explanations of scientific subjects which makes of his initial effort in literature a very readable volume.

More than thirty full-page plates on highly calendered paper, each plate usually containing several illustrations, add very much to the attractiveness and instructive character of the book.

The only criticism of the book is found in the fact that the author leans too much on the side in favor of the proprietary medicine industry in his chapters on patent medicines and self medication; and, in his selection of a list of remedies suggested for the "Family Medicine Chest or Household Armamentarium" he has even ventured to include some proprietary remedies which have been the subject of particular criticism by the American Medical Association.

In spite of this defect, the book deserves a place in every complete library and it can be read with interest and profit by the professional man as well as by the layman.

CHARLES H. LAWALL.

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Toward Racial Health. *Norah H. March. New York: E. P. Dutton Company, 1919. Revised American Edition. Pp. 326. Price, $2.00.*

This is a book on methods in sex education, rather than on racial health, the connection between the two being rather loosely established thus: "How, then, are we to teach and train the boys and girls of this generation in order that they may become, worthily, fathers and mothers of the next!"* The chief emphasis of the book is on the use of nature study and biology material as a basis for sex instruction, although there are excellent chapters on the physical and mental development and care of the child, on ethical training and on education for parenthood. One welcomes the author's advice about supporting the home task of sex education by utilizing outside agencies that make contacts with the child. One objects to certain minor features, an occasional confusion of sex education with sex hygiene, the purposiveness of nature, a vagueness about methods for handling the problem of masturbation, too long paragraphs.

The viewpoint is sane. The book is stored with suggestions for parents and teachers, though in places the phraseology is rather heavy for the ordinary parent, and the lack of paragraph and section headings does not clarify it for reference. But in general, Miss March has made a distinctly valuable contribution to the subject of sex education.

*Page 3.

NEWELL EDSON.

The Evolution of Modern Medicine. *Sir William Osler. The Yale University Press, 1921. Pp. 243. Price, $7.00.*

The only way to review some books is to read from cover to cover. This is such a book. In it Sir William Osler has accomplished for medicine what H. G. Wells has recently done for history, so far as creating an intensely interesting story of human progress is concerned, and more than this Dr. Osler has provided an invaluable and accurate reference book on the high points in medical advance since the beginning of written records. The book is profusely illustrated and should serve admirably as a text book for a course on the history of medicine which ought to be given in every medical school.

The author traces the origin of medicine through its earliest beginnings in magic, incantations, malign influences, and early Egyptian teachings. The ancient practices of the Assyrians and Babylonians, the Chinese, and the Hebrews are made to lead up to the Greeks and the development of hygiene and what may be termed the philosophy of medicine; all of this being delightfully interwoven with the current political and social history of the times in a manner for which Dr. Osler was famous.

The growth of the great schools of medical thought in the Middle Ages, the struggle between the beginnings of science and the influences of astrology and divination, the story of the church and medicine and the final rise and development of modern medicine, are written clearly and briefly, yet with a wealth of references and quotation from extensive treatises on medical history.

All through the text one finds biographic sketches that picture men and their times vividly—Hippocrates, Galen, Paracelsus, Vesalius, Harvey, Sydenham, Hunter, Pasteur, Koch, Lister, Reed, Manson, Ross, Gorgas—and the index of personal names is the best evidence that all the great names of medical history have been included.

The members of the American Public Health Association will be particularly interested in the emphasis which the author gives to health conservation, especially in the concluding chapters on the rise of preventive medicine and sanitation, and in the stories of yellow fever, of malaria, and of the epoch-making discoveries of Jenner, Pasteur, Koch, Lister and others.

All those who knew Dr. Osler as teacher and philosopher will recognize the following quotations from his introductory chapter, as typical of his kindly, humorous way of holding his audience and stimulating thought: "Sail to the Pacific with some Ancient Mariner, and traverse day by day that silent sea until you reach a region never before furrowed by keel, where a tiny island, a mere speck on the vast ocean, an atoll, a mimic earth, fringed with life, built up through countless ages by life on the remains of life that has passed away. And now, with wings of fancy, join Ianthe in the magic car of Shelley, pass the eternal gates of the flaming ramparts of the world and see his vision: . . . . And somewhere . . . . amid the mighty globes would be seen a tiny speck 'earth's distant orb,' one of the smallest lights that 'twinkle in the heavens.' . . . . And as the little coral reef out of a vast depth had been built up by generations of polyzoa, so she would see that on the earth, through illimitable ages, successive generations of animals and plants had left in stone their imperishable records: and at the top of the series she would meet the thinking, breathing creature known as man. Infinitely little as is the architect of the atoll in proportion to the earth on which it rests, the polyzoon, I doubt not, is much larger relatively than is man in proportion to the vast systems of the universe, in which he represents the ultra-microscopic atom less ten thousand times than the tiniest of the 'gay motes that people the sunbeams.' Yet with colossal audacity, this thinking atom regards himself as the anthropocentric pivot around which revolve the eternal purposes of the universe. Knowing not whence he came, why he is here, or whither he is going, man feels himself of supreme importance, and certainly is of interest—to himself. Let us hope that he has indeed a potency and importance out of all proportion to his somatic insignificance. . . . May not man be the radium of the universe? At any rate, let us not worry about his size. For us he is a very potent creature, full of interest, whose mundane story we are only beginning to unravel. Civilization is but a filmy fringe on the history of man. Go back as far as his records carry us and the story written on stone is of yesterday in comparison with the vast epochs of time which modern studies demand for his life on earth. . . . This has to be borne in mind in connection with the

present mental status of man, particularly in his outlook upon nature. . . . Modern anthropologists claim that both religion and medicine took origin in magic . . . . "

The book is issued as one of a series of publications under the Silliman Foundation of Yale College. It is based on Sir William Osler's lectures on the Evolution of Medicine delivered at Yale University in 1913, and partially revised by the author just before his death. Dr. Osler himself characterized these lectures as "an aëroplane flight over the progress of medicine through the ages." In issuing this volume the Yale Press has rendered a notable service to the medical profession and provided another fitting tribute to one of the greatest minds in the history of medicine.

WILLIAM F. SNOW, M. D.

✚

Biology of Sex. *T. W. Galloway, Ph.D., Associate Director of Educational Activities, American Social Hygiene Association. New York: D. C. Heath & Co., 1922. Second Edition. Pp. 149. Price, $1.24.*

The question of sex education has received much attention since the first issue of this book appeared in 1913; and the subject of sex, stripped of much of the prudery that formerly surrounded it, is beginning to take its place along with other subjects of vital importance in the education of the young. Unfortunately, "sex education" was approached from the side of the abnormal and perverse; the present book does much to rectify this approach. Much has been learned in the last few years of the relation of sex to mental life, and the chapter dealing with this subject has, therefore, been amplified. This, with the other additions and minor changes throughout the text, especially of the chapter on eugenics, brings the present edition abreast of current thought. An entirely new chapter has been added on "The Central Place of the Home and Family."

If it is still considered necessary to justify proper sex education, it is unfortunate that more convincing statistics than those presented in Chapter II, "An Investigation," were not offered. If sex education must forever rest on the slim basis of the answers to six questions given nine or ten years ago by 166 college students, we are, indeed, in a bad way.

This book is addressed to parents and teachers, and these will find the last two chapters, dealing with methods of instruction, particularly helpful. H. N. C.

State Medicine a Menace to Democracy. *H. B. Anderson, Secretary-Treasurer of the Citizens Medical Reference Bureau, New York, 1920. Pp. 115. Price, $1.50.*

In the foreword the author states the purpose of this book to be "to meet the needs of legislators, social workers, health officers, teachers, lawyers, clergymen, authors, editors and others interested in the promotion of public health." All of the arguments in the book, however, are clearly intended to restrict the development of public-health activity, to oppose state regulation of medical practice, and to throw the practice of medicine open to the various cults that are fighting for recognition.

The author adopts the very interesting method of developing his own case of quoting the writings of his opponents. More than half of the volume consists of quotations from such individuals as Victor C. Vaughan, W. C. Rucker, Frederick R. Green, George A. Soper, etc. Quite naturally, every one of these has some criticism of the present methods of medical practice and of public-health administration. By bringing all of these together, the author endeavors to give the impression that the leaders in the public-health and medical movements are as a group quite out of sympathy with the trend of those movements. For example, he quotes Gorgas as saying: "Poverty is the greatest of all breeders of disease, and a stone wall against which every sanitarian must impinge." The author then points out that appropriations for "alleged public-health purposes" are futile.

One of the pet claims of the author is that public health is meddling with private practice of medicine, while neglecting sanitary engineering and the control of the environment, which ought to be the first concern of the health official.

The germ theory of disease is attacked through a quotation from Hodge (reprint from the *Daily Cataract Journal* of July 22, 1905): "Many of the most advanced thinkers in the medical profession, both in this country and abroad, are frank in the expression of their conviction that the germ theory has no scientific basis upon which to rest its claim. It is a mere fantasy of fussy microscopists who know little or nothing of the real nature of disease." (Page 51.)

On page 84 the author quotes Pitcairn of the Pennsylvania State Vaccination Commission, to the effect that in the Spanish-Amer-

ican war, as shown by the practice of army surgeons, six weeks was considered the limit of immunity conferred by smallpox vaccination.

Nonsense of this type will quickly condemn the volume in the eyes of any one who is at all informed upon public-health or medical matters. The laity, however, are more likely to be misinformed by this book. A. W. H.

✚

Applied Chemistry. *Fredus N. Peters, Ph.D. Instructor in Chemistry in Central High School, Kansas City, Mo. St. Louis: C. V. Mosby Company, 1922. Pp. 461. Illustration 72. Price, $3.50.*

This is a student text-book presenting chemistry—always considered a "hard" subject in the high school curriculum—in a very digestible form. One will readily note that its author has a deep appreciation of the practical aspect of chemistry coupled with an extensive experience as a teacher. Each of the 37 chapters begins with an "Outline" and concludes with "Exercises for Review." The chapters cover systematically the basic laws of reactions as well as the various elements and derivatives with reference to their occurrence in nature and utilization in manufacturing processes. I feel certain that the text-book merits a favorable reception in high-school circles and in many technical institutions. The only criticism which one could make is that the text is printed on glazed paper which makes reading in artificial light difficult.

ARTHUR LEDERER, M. D.

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PUBLIC HEALTH NOTES

Abstracted by D. GREENE, M. D., JAMES E. TOBEY, LL.B., HOMER N. CALVER and MAYO TOLMAN.

The Treatment of Hereditary Syphilis.—The study reported was undertaken with the purpose in view of determining whether or not the end-results of the intensive work with hereditary syphilis during the period 1912-1920 were of such a nature that future work along the same line is indicated or justified. During this period 443 patients with the disease were observed and followed with adequate hospital, clinic, and social service facilities available at all times. From the social standpoint it was found that the group as a whole was unsatisfactory and difficult to deal with. Lack of interest on the part of parents led a large number of the cases to discontinue treatment long before dismissal by the physician. In spite of thorough and intensive follow-up work, only a third of the hereditary syphilitic patients were given the benefit of a satisfactory course of treatment, and the authors question whether this figure can be improved under ordinary conditions.

Concerning the results of medical treatment, two viewpoints must be considered, first, the results of treatment in the individual case, and second, the results of treatment for the group of 443 cases as a whole. So far as the individual case is concerned, the results show that a given case has a fair chance of clinical and serological recovery or improvement when adequate treatment is provided early. If the given case has either serological or clinical evidence of involvement of the central nervous system, the chances for recovery or improvements are poor. As regards the group as a whole, the results have been disappointing. In a group of 308 cases whose end-results are known, the following figures are given: cured or recovered 67, or 22 per cent; improved 108, or 35 per cent; unimproved 55, or 17 per cent; died 78, or 25 per cent. Thus in the entire group, regardless of the amount of treatment received, 43 per cent were either unimproved or died. The group results show that from a social or group standpoint the treatment of hereditary syphilis in the infant or child leaves much to be desired. The problem is best attacked by reaching the syphilitic woman or mother before and during pregnancy. "While by no means advocating the neglect of the syphilitic child, we feel that the results to be obtained are so poor as a whole that our efforts should be directed much more to the prenatal clinic

than to the pediatric clinic, and that the only satisfactory solution of the problem of hereditary syphilis is its prevention rather than its cure."—P. J. White and B. Veeder, *Amer. Jour. of Syphilis,* July, 1922, 353 (D. G.).

✚

A New Instrument for Sampling Aerial Dust.—An ingenious yet simple apparatus for sampling aerial dust has been devised by the authors. This instrument makes use of the principle of impingement of the dust-laden air at a high velocity on a wetted glass surface, together with that of bubbling the air through a liquid medium. The apparatus consists essentially of three parts: a hand pump or electrically driven blower; a flow meter, or other suitable means of measuring the air passed through the instrument, and the dust collecting device. The dust collector consists of a flat-bottomed assay flask or precipitating jar of 500 c.c. capacity provided with a two-hole rubber stopper. In one of these holes is fitted a suitable outlet tube which is connected with the flow meter, and the latter in turn is connected with the exhaust apparatus. In the second hole of the rubber stopper is placed an impinger tube (of glass) ⅝ inch in diameter and 9½ inches long. This tube is open at the upper end and is provided with a flat bottom. The bottom is pierced by 15 holes, each approximately 0.8 mm. diameter. Projecting from the bottom of the tube are three lugs each 0.8 mm. long, the purpose of which is to keep the bottom of the tube always 0.8 mm. from the bottom of the flask. Manipulation of the instrument during sampling is easy, and the analytical procedure is almost identical with that employed with the Palmer apparatus now in general use by the U. S. Public Health Service. The efficiency of the apparatus exceeds that of any of the instruments now in use.—L. Greenburg and G. W. Smith, *Repts. of Investigations, Bureau of Mines,* September, 1922 (D. G.).

✚

Epidemiology of Tuberculosis.—An inquiry made by the authors in an agricultural village shows that tuberculosis has spread from two main foci of infection. From these two foci the actual cases existing in the village and also the "contact" have arisen, with one exception, which is an independent focus and is subsiding. Infection takes two lines. It spreads in the family producing active disease; it infects also strangers or near relatives who come in less intimate contact with the infecting persons, but does not in them produce open tuberculosis. These people are relatively immune, because they are healthy adults and they do not show, up to now, the least clinical sign or symptom of active disease. The fact that offspring of these families present a negative reaction, whereas the parents present a positive reaction, has led the authors to conclude that the parents have gone through an infection but that the infection has merely led to an immunization of the individuals. From this observation they have concluded that the Pirquet reaction is a reaction of immunity. Should the parents have been infectious they would have infected their children. The condition *sine qua non* for infectivity in tuberculosis is the existence of open foci in the lungs. The expired air is the chief vehicle of infection. Of all accessory factors for the spread of tuberculosis, overcrowding seems to be the most important. In order that immunity shall arise the contact must take place at intervals, only small quantities of virus being absorbed. Under these circumstances the human organism mobilizes its defense and can cope with the infection. Practically speaking, people in intermittent contact with open cases get only a Pirquet positive but not the active disease, deriving benefit, not harm, from small doses of bacilli to which they are exposed. On the other hand, the facts brought out through this inquiry show that when the virus is absorbed continuously, as in the intimate contact of mother and child, then active tuberculosis arises.—A. Distaso and A. C. Johnson, *Tubercle,* January, 1922, 145 (D. G.).

✚

Etiology of Rickets.—The observation on the etiology of rickets reported by Chick et al. disclosed that this disease developed during winter and spring under excellent hygienic conditions in infants receiving a diet composed of fresh milk from stall-fed cows and to which sugar was added, and was prevented in children receiving a diet containing cod liver oil, more milk and less carbohydrate. Both milks were low in vitamin A content. Rickets did not develop in summer on either diet. Rickets can be cured by cod liver oil and by exposure to sunlight, or to the radiation of the mercury vapor quartz lamp. The first six months of

life is a period of special susceptibility to the onset of the disease. Rickets may develop in an infant whose general condition is good or improving, and healing of the bones may occur independently of improvement in the general condition.—H. Chick, E. J. Dalyell, M. Hume, H. M. M. Mackay and H. H. Smith, *Lancet*, July 1, 1922, 7 (D. G.).

✠

Municipal Homes for Open Cases of Tuberculosis.—The author feels that the solution of the problem of the open case of the tuberculosis is in an institution that will have to accept full responsibility for the positive sputum case outside the sanatorium. Such a community house is the missing link in the chain of defense against tuberculosis. It joins up the sanatorium and the far advanced hospital; so that the open case is under constant supervision from the time he leaves the sanatorium till he goes to the far advanced hospital in case he loses his fight, or till his lesion heals.—E. P. Troy, *Medical Officer*, Sept. 30, 1922, 147 (D. G.).

✠

Inspection of Canned Foods.—A report recently issued (Food Investigation Board Special Report No. 10, "Inspection of Canned Foods," H. M. Stationary Office) deals with imported marine products. The methods of inspection at the ports are similar to those used in the case of meat products, namely, inspection, palpation, percussion and auscultation. As with the meat tins, 10 per cent are examined, and if the proportion of rejects is considerable the whole consignment is held up for more detailed examination. The results of inspection show definitely blown, badly damaged, or rusty tins. Palpation is of considerable help in this work of inspection as the ordinary round can gives a firm feel and no "give" is exhibited; in case of the thin walled cans with flat surfaces (such as are used for herrings and sardines) a slightly springy condition may be met with, and would be passed by most inspectors. Percussion seems to be of comparatively little use for marine products and was not systematically employed, but great stress was laid upon shaking. With this method many difficulties are encountered as the sound varies considerably; with a high grade of salmon packed in round tins, the shake sound somewhat resembles a thud, but with a low grade product the fish is more broken up and a loose note predominates.

The reliability of such methods of examination was judged by a comparison of the findings of expert examiners, with the actual physical condition of the fish when opened and the results of bacteriological and chemical examination. The figures given show that tins rejected as unmistakably blown are nearly always unfit or contain bacteria; they would all have to be condemned, and no difficulty arises as regards tins showing definite signs of internal pressure. Other grounds for rejection are usually an abnormal shake sound and a springy condition of the tins; with these the judgment is not universally right and the percentage of correct rejections varies considerably. Thus the present methods result in the rejection of many sound samples, but it is difficult to make practical suggestions which will lessen these rejections and yet leave no loophole for unfit samples to pass.—*Medical Officer*, Sept. 30, 1922, 145 (D. G.).

✠

School Clinic Records.—A system of clinic record keeping is described which has the following features: The person doing the booking wastes as little time as possible in writing; the nurse doing the dressings has no writing at all to do; any child's card is quickly obtainable; in the event of the booker being called away, another person can straightway carry on without confusion or delay; the medical officer is enabled to work without distraction, and the work of the nurse is not hindered in waiting for him, nor are parents and children detained longer than is necessary.—C. S. Harwood, *Medical Officer*, Aug. 19, 1922, 75 (D. G.).

✠

Treatment of Leprosy With Chaulmoogra Oil.—Those who have had extensive experience with leprosy are of the opinion that at present the treatment with the esters of chaulmoogra oil is the best. From bacteriological studies and from clinical symptoms this method of treatment will cure the early cases, especially in young subjects. The advanced cases certainly improve in time, and it is possible that many of these will be cured after years of treatment. Isolation of advanced cases of leprosy in one leprosarium in Louisiana is an excellent plan. Under government control and supervision these patients will receive much better treat-

ment than when they were scattered in isolated county hospitals throughout the United States.—H. Morrow, E. L. Walker and H. E. Miller, *Jour. Amer. Med. Assn.*, Aug. 5, 1922, 434 (D. G.).

✚

A Test for Diphtheria Immunity and Susceptibility.—In the test devised by the author, a predetermined strength of toxin is mixed with an equal volume of blood serum from the person to be tested, the mixture allowed to stand for half an hour at room temperature, and then 0.2 c.c. of the mixture is injected intracutaneously into the shaved skin of a white guinea pig. The extreme delicacy of reaction in this test, plus the fact that the guinea-pig is never sensitive to the proteins of diphtheria toxin, mean that the test is clear cut, certain and free from confusing pseudoreactions. The test is performed in the laboratory, blood specimens being sent in as for the Widal test.—W. H. Kellogg, *Jour. Amer. Med. Assn.*, June 10, 1922, 1782 (D. G.).

✚

An Indictment of the Mouse.—In his recent presidential address to the British Medical Association at Glasgow, Sir William Macewen urged the need for a close study of comparative anatomy and physiology for elucidation of problems affecting the health of man. He continued: "It is not necessary to go far afield to begin such study. The lion, the elephant, and the duck-billed platypus are of great interest in themselves; but who knows about the fauna and flora of the dermal coverings and hirsute appendages of the ubiquitous mouse, which perseveringly installs itself in and near the haunts of man, and even penetrates the family circle? What man thinks of the mouse may be summed up in the form of means of destruction—traps, gins, cats! What the mouse thinks of man would not flatter his vanity. The mouse regards man as an impotent animal who issues threats of destruction, and makes the most clumsy, short-lived attempts to carry them out; as a pusillanimous antagonist, a creature who for centuries has waged war on mice—with no effect! They are still as numerous, as bold, as intelligent, as agile, as beautiful, and as destructive as ever! The 'wee sleekit cowrin' tim'rous beastie' to this day pursues the even tenor of his way. No other animal has such opportunity of carrying disease into the domestic hearth. Mice of one kind or other attend the harvesting of grain in the field, follow it to the corn-rick or barn, infest the stores, mills, or bakeries, and are ready to attack the flour when made into bread. They go over the cots of children, diseased or healthy; they run from house to house; they lick every used plate, cup, or saucer on which there is a particle of sugar or crumb of bread. The mouse is a carrier of disease—but what are its pathological records? Is it subject to contagious diseases, and if so how does it disseminate them? Is it attacked by sarcoma or cancer, allied to that which attacks man?" Sir William added that even for the protection of humanity, apart from the intrinsic interest of the study, the mouse and its ways are worthy of the searchlight of scientific investigation.—*Medical Officer*, Aug. 19, 1922, 81 (D. G.).

✚

Directory of Child-Health Agencies.—A comprehensive directory of 861 local child health agencies in the United States has just been issued by the U. S. Department of Labor through the Children's Bureau. These agencies are actively engaged in the promotion of child health through maternity care, infant care and the care of the child of pre-school age. They serve states, counties and urban areas of 10,000 or more inhabitants. The material was obtained by means of a questionnaire which called for the name of the organization, the address, the name of the executive, the number of paid and volunteer workers and the scope of work.

For convenience in consultation, the directory includes a list of agencies arranged by state and city; an alphabetical list by states of agencies serving state-wide, county and urban areas; and a classification of agencies according to whether they provide maternity care, infant care and the care of children of pre-school age.

✚

Power of New York State Health Commissioner to Regulate the Practice of Midwifery Upheld.—The Appellate Division of the Supreme Court of New York rendered an opinion in the September term which sustains the discretionary power of the Commissioner of Health to issue and withhold annual licenses for midwives as provided in the state law and the state sanitary code. The decision, given in the case of Maria

Barresi vs. the State Commissioner of Health, reversed the order of a lower court which had granted a writ of mandamus compelling the issuance of the license. The facts in the case are as follows:

The midwife, practicing in Utica, had been graduated from a recognized school in Italy and had been duly licensed by the State Commissioner of Health in October, 1920. From the first, however, her practice in this country had been irregular, and finally the department obtained a report that she had committed an abortion. Consequently, when her license expired at the end of 1921, it was not renewed. Thereupon, the midwife brought suit to compel the issue of the license.

In commenting on this case, Justice Hinman made the following statement: "At the time the application for license was passed upon, the Commissioner had before him official reports from the inspectors of his Department relating to the conduct of the relator. These reports were a part of his official files. The substance of these reports was such that the action of the Commissioner was not only justifiable but it would have been grossly improper for him to have granted the license in the absence of at least a denial or satisfactory explanation of the conduct criticized by his inspectors. The Legislature has invested the Public Health Council and the State Commissioner of Health with authority to regulate the practice of midwifery. The State Commissioner of Health has been invested with authority to pass upon the technical qualifications of the applicants and also upon the character of the applicants. In this case, he was not satisfied as to the moral fitness of the applicant."

Justice Kellogg, who delivered the opinion, made the following remarks in the course of it: "Certainly if the public good demands that administrative officers be vested with plenary power to determine the fitness of applicants to conduct taverns, to give theatrical entertainments, to conduct auctions, to practice osteopathy, to become policemen and superintendents of public works, then the discretion of the State Commissioner of Health to reject as unfit an applicant for a license to practice midwifery, a profession which offers convenient opportunity for criminal practices, ought also to be plenary and free from judicial review or compulsion."

While this is not the highest court in New York, this opinion is nevertheless an interesting and important one in that it upholds the discretionary powers of administrative officers who are empowered to issue licenses. (J. A. T.)

✣

Infant Mortality in the Birth Registration Area of the United States, 1921.—A preliminary announcement of the Department of Commerce states that for the year 1921 the birth registration area of the United States shows a birth-rate of 24.3 per 1,000 population, a record low death-rate of 11.7 per 1,000 population, and a record low infant mortality of 76. For 1920, these rates were: birth-rate, 23.7; death-rate, 13.1; and infant mortality rate, 86. The population of the birth registration area for 1921 is given as 70,425,705; the number of births, 1,714,261; the total deaths, 825,511; and deaths under 1 year of age, 129,588.

For the states in the birth registration area, the lowest 1921 infant mortality rate (51) appears for Oregon, and the highest (98) for Delaware. For cities of 100,000 population or more, the lowest infant mortality rate (50) appears for Portland, Ore., and the highest (114) for Fall River, Mass.

The Department of Commerce announces that it will soon issue a bulletin, compiled by the Bureau of the Census, showing the number of births, the birth-rates, and the infant mortality rates for the cities and states in the birth registration area for 1921, together with the figures for 1920 for comparison.—*Public Health Reports*, Oct. 13, 1922 (J. A. T.).

✣

"Tell It to the Young Men."—"Public health service, now more than ever, needs the trained abilities and devoted energies of well-equipped young graduates in medicine and engineering. The problem of how to attract enough of them into the employ of the public is endlessly discussed and never solved. Government livery remains a dubious if not a motley wear to most of the best trained men. The independence, the far greater financial rewards, the unquestioned opportunities for acquiring valuable experience, even the chance of serving idealistic ends, combine to render the private

career only too formidable a competitor of the state when the door of the technical school opens into the world of life and strife. How shall the public, ever more conscious of its need for the services of the most competent physicians and engineers, succeed in obtaining its fair share of the best young men?

"One way of making progress is to keep up the wholesome agitation for higher standards and better pay in the public service, so that trained scientific workers may be more willing and able to remain in government positions. But the government, whether in the nation, state, city, village or rural district, can never hope to compete with private enterprise in the money market. Doubtless it will always be necessary to invoke the most unselfish instincts of those about to choose a career.

"None know better than those who serve the public what unreasonable, capricious and ungrateful moods their master sometimes exhibits. But the courage of youth is commensurate with these and greater obstacles, and gloriously tends to pick a fight with fate. And there is a brighter side to the picture. Conscious pride in the decline of death-rates, in the recording of actual progress towards overcoming diseases that have long been the curse of human existence, in seeing water supplies, streets, cities and people grow progressively cleaner and better, is an emotion which the thoughtful and conscientious health officer need not be ashamed to confess. For honest and fair self-appraisal must convince even the most pessimistic sanitarian that his participation in these great struggles with the environment has meant rather more than the average contribution to the visible gains. 'Is there not a satisfaction greater than that which comes from large money earnings,' says Professor Whipple, 'in feeling that each one of us has had his little part in making the world a better place in which to live?' If so, let the older and wiser workers 'tell it to the young men,' and the state need not fear that its needs and interests will be neglected."—*Bulletin*, New York State Department of Health, September, 1922 (J. A. T.).

✣

Map-Changing Medicine.—It is expected that before long yellow fever will be banished from the face of the earth; that the hookworm disease, endemic in a zone that embraces half of the earth's population, will be driven from any community which has the will to get rid of it; and last, but not least, that malaria will be eradicated from every community with vital force left to push a thorough campaign for its extirpation. These history-making announcements are safely forecast by an examination of developments in the world-wide warfare on disease being waged by the sanitarians of the world under the leadership of such agencies and institutions as the United States Public Health Service, the health departments of the states, the British Schools of Tropical Medicine, the India Office, the Dutch Institute for Tropical Medicine and the French Institute of Colonial Medicine.

The World War served to demonstrate that the tyranny of the pathogenic or disease-producing germ can be conquered. The trenches might easily have become an inferno of infection, but preventive medicine held all communicable diseases in check effectively. When peace was declared, the truths learned during the war were carried to many lands.

No other disease is more easily cured, or is more effective in demonstration than hookworm. In the zone where hookworm is prevalent, most of the backward people of the world live, and there is some ground for deciding that the cumulative effect of this disease is responsible for such backwardness. Epson salts, a dose of thymol and another dose of salts, is followed by the elimination of scores and even hundreds of the life-sapping worms. When operating in conjunction with malaria the hookworm is doubly an evil, and both diseases reach their highest development in the same environment—the hot, damp regions of the earth. Deaths due to hookworm are higher in percentage than those traceable to almost any other disease except tuberculosis. It affects the welfare of humanity over vast and populous regions, lowering the victims' resistance to other infections, dulling the mind and sapping the strength. Its every stage is known at the present time, and methods of combating it are also known. The fact that cures are effected so quickly convinces a community that cannot see the advantages of vaccination against smallpox or the value of water purification against typhoid.

and still clings to the idea that tuberculosis is hereditary and not infectious.

Even more insidious than the hookworm is the microscopic germ which causes malaria. Malaria is affecting the lives and happiness of 800,000,000 people who dwell within the areas where it is endemic. It was Major Ronald Ross, the British army surgeon, who was finally able to pin the crime of spreading malaria on the anopheline mosquito. Through his efforts malaria was wiped out of Ismailia on the Suez Canal. Panama and a hundred other places have been largely freed from malaria by the application of his principles for control. In 1919, due to a conference composed of the United States Public Health Service, members of state boards and directors of the International Health Board, and local health authorities, at a cost of 78 cents per capita, 52 communities formerly hotbeds of malarial infection, were largely freed from the disease. This was done by simple drainage, filling pits and shallow pools, channeling streams, clearing the margins of streams and ponds, oiling, and the administration of quinine, and the use of the top minnow, a tiny fish, which is considered even more effective than oiling in the destruction of the baby mosquitoes before they reach flying age. It has been demonstrated that it costs one-fourth as much to get rid of malaria as to keep it.

Major Walter Reed and his fellow-workers demonstrated that yellow fever is a mosquito-borne disease. General Wood and Colonel Gorgas by following the principles laid down by Reed banished it from Cuba. It was also driven from Panama, Rio Janeiro and Vera Cruz, and finally from Guayquil. Dr. Hideyo Noguchi, now of the Rockefeller Institute for Medical Research, made extensive experiments in Guayquil, discovered the mosquito causing yellow fever, developed a serum for its treatment, and also a vaccine which has prevented thousands of people in disease areas from getting it.

Sanitary science is able to hold out to humanity a charter of freedom from three of the greatest scourges that have beset mankind. In all the dependencies of America and Great Britain sanitarians have carried the tidings of better health. Japan has also shown how high death-rates may be cut and well-being promoted even among illiterates. China, however, with its fifth of the population of the world, still remains for the western civilization to reach, for her agencies on these lines are as antiquated as the ox cart and pony express. Her death-rate reaches 40 per 1,000, or 13,000,000 per year. Missionaries and a few medical schools have made tremendous efforts, but all together they constituted only a drop in the bucket. A great university, the Peking Union Medical College, with its faculty recruited from the best institutions of the West, has thrown open its doors. Its aim is to develop in China an adequate corps of trained Chinese physicians and nurses and to establish thoroughly equipped hospitals.

The most productive half of the earth's surface lies in the latitudes where contagion is most rampant. As humanity expands it must look more and more to the tropics for food. Its food-producing potentialities beggar description, and the sanitarian has proved his power to break the domination of the disease germ, and so make it possible for the white man to live in safety in the tropics.—William Joseph Showalter, *National Geographic Magazine*, September, 1922, pp. 303-330.

✣

Public Health Organization.—The modern public-health movement is less than a century old, its birth being due to the studies of Louis Pasteur; its adolescence, it may be said, to the discoveries of Koch, Lister, Eberth, Gaffky, Klebs, Loeffler, Manson, Ross, Walter Reed and others, during which time causative bacteria of the more fatal infections were isolated and studied, attention focused on sick persons, and reliance laid on quarantine and disinfection. During the last ten or fifteen years there has been a radical transformation. The old obsession that infection was traceable to man's environment has been displaced by the theory that infection emanates from the individual himself, the excretion of his body and the transmission of the virus to his fellow beings by contact, direct or indirect. The sanitarian's perspective has tremendously widened.

The present-day activities deal not only with the control of communicable diseases, supervision of water supplies, sewage, housing, etc., but include infant welfare, school hygiene, public-health education, industrial

hygiene, and many other subjects of a like nature. It is predicted that before long mental hygiene will have a place in the public-health program.

Arguments have been put forward claiming that to set a pattern or standard method of procedure for health department local administration might tend to minimize the value of the personal equation in the success of such health administration, and to stifle local initiative, but, though these arguments are worthy of mature consideration, if a uniform method of procedure would render service of the highest efficiency, in a simplified way, executive health officers should be prepared to sacrifice individual ideas to the dictates of a higher and better service.

The Public Health Act of 1912, the amendments thereto, and particularly the division of the Province of Ontario into approximately equivalent units of population for purposes of greater efficiency of administration, have produced encouraging results there. The interest of the district health officer in the work of the local board had a stimulating influence on the work of the local officers, and has been the means of obtaining better salaries and more generous financial resources for carrying on the work. In the United States several states have evolved a similar plan, but with rather meager and unsatisfactory salaries provided.

There has been remarkable progress during recent years in our larger cities in the practical application of laboratory findings, and the coöperation between the various departments of research and those having contact with the general public, toward the elimination of preventable diseases.

In Ontario there are many fields of public health in which by reason of insufficient funds and imperfect organization, the urban M. P. H. is not permitted to engage except after a desultory fashion. Adequate housing of the artisan population is in its infancy, child-welfare work and school inspection are spasmodic and industrial hygiene only in an experimental stage. Venereal disease has been scarcely more than touched upon. Mental hygiene, though in some phases receiving attention, as a whole is still in the novitiate stage. If this state of affairs exists in our large cities, what shall be said of the advancement along these lines in the smaller cities? It is stated that tuberculosis is surprisingly prevalent in our farming communities. Only in the last two or three years has interest been shown in the care of babies and child welfare in the smaller towns. In population of less than 15,000 persons the expense of maintaining full-time health officers, milk inspectors and bacteriologists is out of the question. Such communities should combine with others in order to secure full-time health service.

Our universities are doing a great deal to eradicate the misconception that any graduate of a medical school is fitted to assume the duties of a health officer. He needs special training for this work, and if he must keep up a regular medical practice in order to make a living and only serve as health officer as a side issue, the importance of the work is discounted in the eyes of the public.

Given a population of from 25,000 to 50,000, for which a full-time health officer has been secured, there should be adequate revenue for the support of a health department. A laboratory is essential, giving scientific direction and insuring the coöperation of the up-to-date practitioners of the district. An epidemiologist, public-health nurses and sanitary inspectors should be provided.

In sparsely settled districts temporary hospitals might be undertaken under conditions of special stringency, and physical examination might be provided and treatment given to those in the ambulatory stages of disease, so that they might continue their accustomed calling. If treatment of disease is not attempted by the health department, except in cities where the control of municipal hospitals is placed within its jurisdiction, the sympathies of the medical profession will not be alienated. The private physician will do well to fall in line with the idea that prevention should occupy a more prominent position in his practice, and the establishment of health centers and clinics will be of aid to the private physician.

If it were possible to accomplish a consolidation of effort and uniformity of purpose among the voluntary associations, so that the whole problem of disease prevention could be surveyed in its entirety, instead of effort being exclusively focused on special fields, the net gain would be very considerable, and form an effective auxiliary to the

health department. —"Public Health Organization," James Roberts, M.D., Medical Officer of Health, Hamilton, Ontario, *The Public Health Journal*, Toronto, June, 1922. (A. J.)

✣

Proceedings of International Association of Industrial Accident Boards Issued.—The United States Bureau of Labor Statistics has issued a pamphet (Bulletin, No. 304) giving the proceedings of the eighth annual meeting of the International Association of Industrial Accident Boards and Commissions held in Chicago, September 19 to 23, 1921. Included in the subjects in this pamphlet are progress in compensation legislation, administrative problems, accident prevention, administration of accident prevention laws, court systems, rating of permanent disabilities, medical problems and administrative troubles.—(J. A. T.)

✣

M. I. T. Graduates Hold Luncheon for Mrs. W. T. Sedgwick.—A luncheon in honor of Mrs. William T. Sedgwick, the widow of the late Professor Sedgwick, was held on October 17 at the Hotel Statler, Cleveland, during the convention of the American Public Health Association. Thirty-four guests were present, including many former students of Professor Sedgwick who were attending the convention and representing the great diversity of work being performed in public-health lines by Professor Sedgwick's former students.

✣

The American Social Hygiene Association held its annual meeting in Cleveland October 19 and 20, following the annual meeting of the American Public Health Association. The growing interest in social hygiene was demonstrated by the large body of enthusiastic workers in attendance. The nearby states furnished the larger number of delegates, but there were many from New England, the South and the West.

The conference was opened by Dr. William F. Snow, who gave a brief history of the social-hygiene movement in the United States. Dr. Edward L. Keyes, Jr., chairman of the meeting, gave a clear description of the progress achieved and an analysis of the program's development. Dr. Haven Emerson addressed the meeting on "Social Hygiene and the Cleveland Survey," as he directed the survey carried on two years ago. He told of conditions as they were at that time and compared them with those of today, a noteworthy advance being shown. Dr. Benjamin C. Gruenberg spoke on "Education As a Factor in the Community's Health," enumerating the various agencies which should be responsible for the education of the community's youth, among them the school, the home and the church. Assistant Surgeon General C. C. Pierce of the United States Public Health Service, told of the close coöperation existing between the Service and the voluntary agencies, and Dr. William S. Keller, president of the Cincinnati Social Hygiene Society, and vice-president of the American Social Hygiene Association, testified to the value of the well-coördinated program. Protective social measures were dealt with by Miss Sabina Marshall of the Women's Protective Association, Cleveland; Mrs. Dora Sandoe Bachman, Social Hygiene Committee of Ohio League of Women Voters, and Dr. Valeria Parker, Department of Social Morality, National W. C. T. U., with discussions by representatives of various women's organizations.

The session on education was opened by the chairman, R. E. Lewis, Y. M. C. A., Cleveland. Edgar F. Van Buskirk and Dr. Max J. Exner contributed papers, which were followed by discussions. The program for 1922-23 was considered at the final session, and the conference was closed by Dr. Snow, who told of the Association's hope that those attending would give the national organization the benefits of local and state experience in order that the work in the broader field might be carried on to best advantage.

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Near East Relief.—Hundreds of letters are being received at National Headquarters of the Red Cross from Red Cross nurses offering their service in the relief work it has undertaken in the Near East. Until Dr. A. Ross Hill, vice-chairman, who has sailed to take charge of the work, can investigate the exact needs of the situation, however, no nurses will be sent from this side. Against possible cable requisitions for nurses, a small unit of those especially qualified is being held ready for sailing.

Recent Changes in Age-Type of Tuberculosis.—An analysis of the mortality statistics among white male wage-earners in the industrial department of the Metropolitan Life Insurance Company during the past decade shows definitely that the type of age incidence of pulmonary tuberculosis has undergone profound changes. Not only has the maximum death-rate been depressed 59 per cent in 11 years, but the age at which this maximum death-rate occurs has moved forward from 38.8 years to 44.8 years. In 1911 the maximum death-rate occurred at age 38.8 years; by 1915 it had advanced to 40.5 years; in 1918 it was located at 42.6 years, and in 1921 at 44.8 years. The forward movement of the point of maximum mortality has definite social significance. As the age ranges where the responsibility of males for the care of families of young children is greatest, the total number of deaths has been cut more than one-half. Further, the age of maximum burden has been advanced in life to a point where the father has fewer young children incapable of self-support. There is therefore a lessening of the strain upon the public and private relief agencies, and the certainty that many thousands of which they would not have had if the mortality conditions of ten years ago were in current effect.—*Statistical Bulletin*, Metropolitan Life Insurance Co., August, 1922 (*D. G.*).

✝

Health Survey of Printing Trades.—A health survey of the printing trades has been authorized by the International Joint Conference Council, representing both employers and employees. The survey is intended to cover two years and will be nation-wide.

The work will include a thorough study of printing processes in their relation to health and of printing house conditions, possibly more or less detrimental to health and life. The investigation will be carried on in coöperation with a large number of governmental, scientific, and corporate organizations, including the United States Bureau of Labor Statistics, which will have charge of the major portion of the social and economic inquiries.

A large measure of coöperation is expected from the insurance companies, but especially from Harvard Medical School, Yale Medical School, the Public Health School of Johns Hopkins University and a number of state health and labor departments.

Particular emphasis will be placed upon methods of ventilation, air-pollution, lighting, eye-strain, posture and physique.

The investigation will be made under the immediate direction of Dr. Frederick L. Hoffman, Dean of the Advanced Department of the Babson Institute, Wellesley Hills, Massachusetts, and Consulting Statistician of the Prudential Insurance Company of America.

LEGISLATION—FEDERAL

(From bi-weekly reports of the National Health Council, September 15-October 15, 1922.)

PROGRESS ON MATTERS PREVIOUSLY CONSIDERED

CONGRESS ADJOURNS

The Second Session of the 67th Congress adjourned *sine die* on September 22. The Third Session will convene on December 4, 1922 and continue until March 4, 1923. It is possible that the President will call an extra session beginning about November 15, 1922, as there are many matters to come up which possibly could not be disposed of in the short session. All bills not previously acted upon go over to this session.

ANALYSIS OF THE TARIFF; ITEMS OF INTEREST TO PUBLIC HEALTH

H. R. 7456. Signed by the President, September 21, 1922. Since the tariff has now become a law, we present a summary of some of the items which affect public health. The Tariff Bill is 500 pages long and contains over 1,700 paragraphs, so that it is impractical to attempt to abstract all of it, and only the more important provisions will be given, as follows:

DUTIABLE LIST

Chemicals—In the haste to bring the bill to final passage, a compromise was effected on the dye and synthetic medicine schedules by fixing a rate of 55% on intermediates and 60% on finished products. These rates are, after two years, to be reduced to 40% and 45% respectively. The rates are based on American valuation and are in addition to a duty of 7 cents a pound in each instance. Senate rates on acids generally prevailed in the final passage of the bill. On alcohols the House rates generally prevail. They include

methanal or wood alcohol at 12 cents per gallon; ethyl for non-beverage purposes at 15 cents a gallon.

Other rates include—Antimony oxide, 2 cents per pound; tartar emetic, 6 cents per pound; rochelle salts, 5 cents a pound; balsams, copaiba, fire of Canada Peru, tolu and all other balsams, ten per cent ad valorem; barium carbonate, 1 cent a pound; barium chloride, 1¼ cents per pound; barium dioxide, 4 cents a pound; chlorinated lime, 3/10 of 1 cent a pound; caffeine, $1.50 per pound; calomel, corrosive sublimate and other mercurial preparations, 45 per cent ad valorem. (This is an advance of 30% over existing law.) Carbon tetrachloride, 2½ cents a pound; chloroform, 6 cents a pound. (The present rate is 2 cents per pound.) Casein or lactarene, 2½ cents per pound. (Casein was free of duty under the Payne-Aldrich and also Underwood Tariff laws.) Chemical compounds, salts and mixtures of bismuth, 35%. (It was free of duty in the Underwood Law.)

An important schedule which fixes the rates on chemicals, drugs, medicinal and similar substances, when imported in capsules, pills or similar forms, bears the duty of 25%, which is exactly the same rate as in the Payne-Aldrich and Underwood Laws.

Drugs, etc.—No change is made in the duty on drugs made from barks, beans, berries, herbs, roots, etc. Belladona and digitalis are changed from 10% to 25% ad valorem. Ergot is unchanged at 10% ad valorem.

Senate rates on gelatin were reduced as follows: Edible gelatin valued at less than 40c a pound, 20 per cent and 3½c a pound; valued at 40c or more a pound, 20 per cent and 7c a pound. Glycerin, refined stays at 2c per pound (the Underwood rate). Formalin, 2c a pound. The rate on crude iodin is free as in the Underwood law; but the duty on resublimed iodin is 20%, whereas it was free in the Underwood law. Bromin and bromin compounds have a duty of 10 cents per pound (free under the Underwood Law). Extracts of licorice are 25% ad valorem. (They were one cent per pound in the Underwood Law.) Citrate of lime is 7c per pound. Epsom salts, one-half cent per pound (was one-tenth of cent per pound in Underwood Law). The duty on methol is 50 cents per pound, which is the same as the Underwood Law. No change is made in the duty of one cent per pound on crude or natural camphor; the rate is advanced from 5 to 6 cents per pound on refined or synthetic camphor.

On castor oil the House rates of 3 cents per pound prevail. (This is an increase over the Underwood Law, which was 12 cents per gallon.) The rates on opium are unchanged from the Underwood Law, but cocain, ecgonin and derivatives thereof are advanced from $2 to $2.60 per ounce. Strychnin and salts 15 cents per ounce. (It was free in the Underwood Law.) Plasters, healing and curative, 20 per cent ad valorem.

Scientific Instruments—Biological, chemical, pharmaceutical and surgical instruments, 65 per cent ad valorem. Lenses, 40 per cent ad valorem. Optical glass and equipment, 45 per cent ad valorem. Microscopes, 45 per cent ad valorem. Philosophical and scientific instruments composed of metal, 40 per cent ad valorem.

Foods—About 50 paragraphs from Par. 704 on are devoted to duties on foodstuffs.

THE FREE LIST

Among the articles on the free list are:

Antitoxins, vaccines, viruses, serums and bacterins;
Barks, cinchona or other, from which quinin may be extracted;
Borax
Copper sulphate
Cyanid, potassium cynanid, sodium cyanid and all cyanid salts;
Drugs, natural and uncompounded
Leeches
Nux vomica
Phosphates, crude and apatite
Potassium chloride and nitrate
Quinin sulphate and all alkaloids and salts of alkaloids of cinchona
Radium, salts of and radioactive substitutes
Skeletons and other preparations of anatomy
Teeth, natural.

Drugs, medicines, or articles to prevent conception are prohibited from importation, along with immoral objects.

S. 3540. Fees for Examining Surgeons of the Bureau of Pensions (A. J. P. H., Oct.).—Passed Senate, September 9, 1922. Passed House, September 19, 1922. Signed by President, September 22, 1922. Examining surgeons of the Bureau of Pensions are allowed a fee of $3 for each medical examination of a claimant, and $5 where the surgeon

goes to claimant's residence to make examination.

H. R. 8062. Increasing Allowances to Totally Disabled, Blind, Legless or Armless Veterans.—Passed the Senate, September 22, 1922. Disabled soldiers in constant need of a nurse or an attendant are given $20 a month and blind soldiers are given $50 a month for attendants by the terms of this bill.

S. 2040. Compulsory Attendance of School Children, D. C. (A. J. P. H., Nov.).—This measure, which has already passed the Senate, was favorably reported with a few minor amendments to the House on September 16, 1922, by the Committee on the District of Columbia. It provides for the compulsory attendance of school children between the ages of 6 and 16 years, the taking of a school attendance, the creation of a department of school attendance and work permits and the regulation of the employment of child labor. Action upon the measure was not taken before the adjournment of Congress.

H. R. 11021. Prevention of Venereal Diseases, D. C.—Objection made to its consideration in House, September 18, 1922. This bill, which provides for the prevention of venereal diseases in the District of Columbia, although favorably reported by the Committee on the District of Columbia, has not yet been the subject of favorable legislation. On unanimous consent day in the House, September 18, 1922, it was again passed over after an objection to its consideration was made by Representative Stafford.

H. R. 11040. Authorizes Sale of Marine Hospital Reservation at Cleveland (A. J. P. H., Aug.).—Objected to in the House, September 18, 1922. The proposed legislation would give the Treasury Department authority to sell the Marine Hospital at Cleveland, using the proceeds to construct another institution. Because of the refusal of Representative Stafford to consent to the consideration of the bill unless the expenditure for a new hospital was reduced to $400,000, it was passed over on the unanimous consent calendar in the House, September 18.

PUBLIC-HEALTH BILLS PASSED BY CONGRESS AND SIGNED BY THE PRESIDENT, SEPTEMBER 22, 1922.

H. R. 9528 providing for the retention by the government of property in Nome, Alaska, known as Detention Hospital Building, and its use by the Bureau of Education. (A. J. P. H., Nov.)

H. R. 11589 providing for transfer of lands and buildings of Federal Leprosy Investigation Station at Kalawao, on island of Molokai, in Territory of Hawaii to the Territory of Hawaii.

NEW MATTERS (NOT PREVIOUSLY CONSIDERED)

H. R. 12730. Use of Government Hospitals for Civilian Government-Employees Suffering with Tuberculosis.—Introduced by Congressman Gorman, September 20, 1922. Referred to the Committee on Reform in the Civil Service. This measure provides that all civilian employees of the United States Government, either stricken or suffering with tuberculosis while in the employ of the government, shall upon application be admitted in any of the government hospitals of the United States, including institutions maintained by the Army, Navy, Marine Corps or U. S. Public Health Service.

BILLS RELATING TO CARE OF VETERANS

The following bills have been introduced regarding veterans' care:

H. Res. 423. To investigate district No. 9, St. Louis, Mo. (Sept. 18, Mr. Rhodes).

H. R. 12779. To place disabled veterans who have or may hereafter receive training on land, and creating farm loan division in Veterans' Bureau (Sept. 21, Mr. Knutson).

S. 4014. Introduced by Senator Townsend, September 20, 1922, and referred to the Committee on Finance. An amendment to the act establishing the U. S. Veterans' Bureau. It provides that a central office of the Bureau be established in the District of Columbia with fifteen regional offices and one hundred and fifty sub-offices.

H. R. 12719. Eradication of Mosquitoes in Illinois.—Introduced by Mr. Gorman, September 19, 1922. Referred to Committee on Appropriations. This bill would appropriate $50,000 to eradicate mosquitoes in the Des Plaines River Valley in Illinois.

H. R. 12704. First Deficiency Act, 1923 Fiscal Year.—Introduced in House of Representatives by Committee on Finance. Passed House September 19, 1922. Passed Senate September 21, 1922. Signed by President September 21, 1922. This measure carries small sums appropriated to make up

deficiencies in all the departments and bureaus of the government. Included are a few items of public health for U. S. Veterans' Bureau, Department of Agriculture, U. S. Public Health Service. None of the amounts is large. One hundred and fifty thousand dollars is appropriated for the fuel administrator.

H. R. 12790. Publication of Proceedings of World's Dairy Congress.—Introduced by Mr. Haugen, September 22, 1922. Referred to Committee on Agriculture. This bill authorizes publication of information presented at the World's Dairy Congress to be held in the United States, October, 1923.

H. Res. 427. Resolution Demanding Enforcement of Prohibition Act.—Introduced by Representative Ryan, September 13, 1922. Referred to the Committee on the Judiciary. This resolution states that the city of New York is overrun with prohibition officers appointed without regard to their merit or qualifications, that citizens of that city are being harassed and oppressed by these officers, that particular stress is being laid by the prohibition director on alleged enforcement of the liquor laws in New York for the purpose of advertising himself. It asks that the President of the United States be directed to enforce the statutes equally throughout the United States and not to devote its sole energies against any particular community.

H. R. 12684. Home Care for Dependent Children, D. C.—Introduced by Representative Focht, September 16, 1922. Referred to the Committee on the District of Columbia. Dependent children are to be given home care instead of being placed in public institutions, according to the terms of this measure. A similar bill was introduced in the Senate, August 8, by Senator Calder. The Focht measure is a duplicate of the Calder bill.

Post Master General Authorizes Use of Special Cancer Week Cancellation Stamps.—Dr. Hubert Work, the Post Master General, has authorized the manufacture and use of dies bearing the legend "National Cancer Week, Nov. 12-18" in the seven post offices in Colorado. This action is authorized by H. R. 10941, now a law, allowing the Postmaster General to grant such permission.

CUMULATIVE INDEX

The following index is the fifth published by the National Health Council, and covers a review of all health matters before the 67th Congress between July 15 and October 15. There are three parts: alphabetic subject index, Senate bills and resolutions in numerical order, and House bill and resolutions in numerical order. Back numbers of the National Health Legislation Bi-Weekly Summary may be obtained upon request at 20 cents a copy.

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SENATE BILLS

(Note: Where date only is given, it is date of introduction. All are 1922.)

S. 528. Relief for widow of Surgeon Von Ezdorf. Passed Senate, Sept. 9.

S. 813. Closing Upper Water St., D. C., so that Science Building may be erected. Signed by President, Sept. 6.

S. 848. Authorizing issuance of interchangeable mileage tickets on railroads. Signed, Aug. 23. (A. J. P. H., Nov.)

S. 2040. Compulsory school attendance and child labor, D. C. Passed Senate, Sept. 1. Reported House, Sept. 16. (A. J. P. H., Dec.)

S. 2083. Regulation of undertaking, D. C. Passed Senate, Sept. 9. (A. J. P. H., Nov.)

S. 2568. Increase in coroners, D. C. Passed Senate, Sept. 9. (A. J. P. H., Nov.)

S. 2597. Abandonment of alley dwellings, D. C. Signed, Sept. 6. (A. J. P. H., Sept.)

S. 3202. Relief of Dr. L. C. Brock. Passed Senate, Sept. 9.

S. 3472. Retirement of disabled government employees. Passed Senate, Sept. 9. (A. J. P. H., Nov.)

S. 3540. Fees of examining surgeons, Bureau of Pensions. Signed, Sept. 22. (A. J. P. H., Dec.)

S. 3588. Protection of watershed, Ogden Utah. Reported Senate, Sept. 12. (A. J. P. H., Nov.)

S. 3721. Establishment of national leper home in Louisiana. Reported House, Sept 6. (A. J. P. H., Nov.)

S. 3845. Authorizing U. S. Veterans' Bureau to maintain chaplains at government hospitals, July 19. Finance.

S. 3847. Mothers' pensions, D. C. July 19. District of Columbia. (A. J. P. H., Oct.)

S. 3858. Defining butter and fixing standard therefor. Reported Senate, Aug. 19. (A. J. P. H., Oct.)

S. 3898. Care of dependent children, D. C. Aug. 8. District of Columbia. (A. J. P. H., Oct.)

S. 3937. Water and sewers at Ft. Douglas, Utah. Aug. 23. Military Affairs.

S. 3968. Prevention of pollution of navigable waters. Passed Senate, Aug. 31. (A. J. P. H., Nov.)

S. 3974. Amendment to pure food and drug act. Sept. 1. Agriculture and Forestry.

S. 3983. Extension of market news service of Dept. of Agriculture. Sept. 5.

S. 4014. Amendment to U. S. Veterans' Bureau act, Sept. 20. Finance. (A. J. P. H., Dec.)

S. Res. 342. Extermination of insects at Capitol. Aug. 25. Sec. H. Con. Res. 66. (A. J. P. H., Nov.)

S. Res. 349. Investigation of U. S. Veterans' Bureau. Sept. 12. (A. J. P. H., Nov.)

S. J. Res. 216. Water supply of Kansas City. Signed Sept. 22.

S. J. Res. 224. Amendment to Constitution re child labor. July 14. Judiciary. (A. J. P. H., Oct.)

HOUSE BILLS

H. R. 4. Pensions for Nurses. Signed Sept. 1. (A. J. P. H., Oct.)

H. R. 7456. The Tariff. Signed Sept. 21. No. 32, p. 3. (A. J. P. H., Nov.)

H. R. 8062. Increasing allowances to disabled veterans. Passed Senate. Sept. 22. (A. J. P. H., Nov.)

H. R. 8086. Prohibiting shipment of filled milk in interstate commerce. Hearings, Senate, Aug 1-7. (A. J. P. H., Oct.)

H. R. 9528. Detention hospital, Nome, Alaska. Signed Sept. 21. (A. J. P. H., Dec.)

H. R. 10871. Reduction commissioned personnel of Army. (A. J. P. H., Oct.)

H. R. 11021. Prevention of venereal disease, D. C. (A. J. P. H., Dec.)

H. R. 11040. Sale of marine hospital, Cleveland. (A. J. P. H., Aug.)

H. R. 11212. Retirement of disabled government employees. Signed, Sept. 21.

H. R. 11588. Hospitals for veterans. Signed July 1. (A. J. P. H., Aug.)

H. R. 12105. Erection of national leper home in Louisiana. (A. J. P. H., Nov.)

H. R. 11275. Pay of navy pharmacists. Aug. 15. Naval Affairs.

H. R. 12398. Increasing Army personnel. Aug. 22. Military Affairs. (A. J. P. H., Nov.)

H. R. 12409. Million dollar government reward for discovery of disease. Aug. 23. Interstate and Foreign Commerce. (A. J. P. H., Nov.)

H. R. 12472. Coal bill. Signed Sept. 21. (A. J. P. H., Nov.)

H. R. 12517 and H. R. 12555. War risk insurance.

H. R. 12577. Extension of market news service of Dept. of Agriculture. Sept. 11.

H. R. 12605. Forbids employment of noxious gases on living bodies of domestic animals. Sept. 12. Military Affairs.

H. R. 12684. Home care for dependent children, D. C. Sept. 16. District of Columbia. (A. J. P. H., Dec.)

H. R. 12704. First deficiency appropriation. Signed Sept. 21. (A. J. P. H., Dec.)

H. R. 12719. Eradication of mosquitoes in Illinois. Sept. 19. Appropriations. (A. J. P. H., Dec.)

H. R. 12730. Use of government hospitals for civilian government employees having tuberculosis. Sept. 20. Reform in the Civil Service. (A. J. P. H., Dec.)

H. R. 12779. Care of veterans. (A. J. P. H., Dec.)

H. R. 12790. Publication of proceedings of Worlds Dairy Congress. Sept. 22. Agriculture. (A. J. P. H., Dec.)

H. Res. 420. Removal of Gen. Sawyer as Chief of Coördination Section, U. S. Veteran's Bureau. Aug. 31. Interstate and Foreign Commerce. (A. J. P. H., Nov.)

H. Res. 423. Investigation of district No. 9 (St. Louis) Veterans' Bureau. Sept. 18. (A. J. P. H., Dec.)

H. Res. 427. Enforcement of prohibition act. Sept. 13. Judiciary. (A. J. P. H., Dec.)

H. Res. 431. Investigation of Veterans' Hospital in Bronx. Sept. 14.

H. J. Res. 297. Pollution of navigable waters. (A. J. P. H., Oct.)

H. Con. Res. 66. Extermination of insects at Capitol. Passed Senate, Sept. 9. (A. J. P. H., Nov.)

STATE HEALTH NOTES

GENERAL

Alabama

At the Democratic Convention in Montgomery September 7, it was recommended that the state support to the extent of its ability the activities of the Health Department. Feeling a just pride in the great achievements of this department under present and former administrations, they pledged to the Department and the people of Alabama the heartiest coöperation of the Democratic party toward the continuance and improvement of its invaluable services.

In 1917 Alabama expended for public-health work $27,000; in 1918, $43,000; in 1919 state and federal funds amounted to $80,000; in 1920 public funds amounted to $90,000 and outside sources supplied $73,000 more; in 1921 the amount expended was $218,000, and in 1922 available sums amount to $252,000. The steadily increasing appropriations from the state are due to an enactment of the legislature of 1919. Evidences of wise administration induced federal agencies to supplement state funds most generously.

Alabama has full-time health service for 31 per cent of her rural population, whereas in the United States as a whole only 8 per cent of the rural population is served by full-time health officers. She has invested money in safe water supplies, thus reducing the typhoid death-rate, and in spreading information which has reduced pellagra and malaria. There are now 14 men at work in

marshy places, draining, ditching, dynamiting, stocking with top-minnows, thus teaching the people how to prevent malaria.

Alabama has also done much in the control of the venereal diseases, having at present 12 free clinics in counties with full-time health service, and 110 coöperative clinics serving the remainder of the state. In these latter, treatments are given at a fee of $2.00 by practicing physicians, to whom the state furnishes equipment and medicines.—*Montgomery Advertiser*, September 8, 1922.

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The Alabama Child Welfare Commission has made a study of child welfare legislation with special relation to the problems presented in Alabama. An excellent summary of the various laws relating to children in Alabama has been prepared and published by the State Child Welfare Department.

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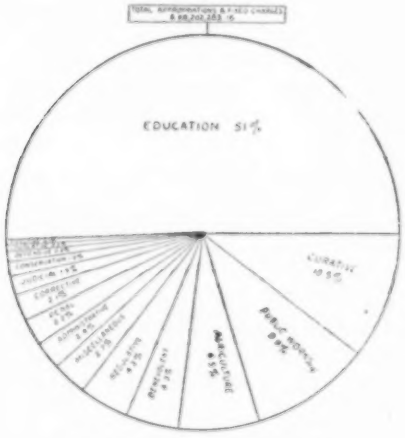
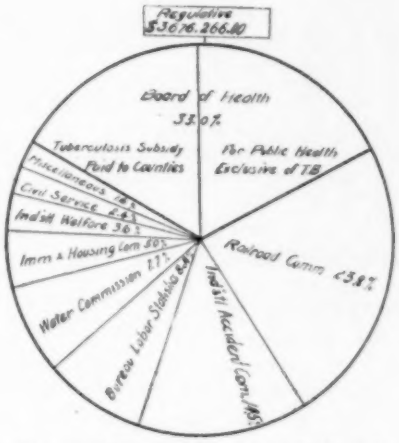
California

The accompanying graphs are reproduced from the January, 1922, issue of *The American County*. It will be noted that 4.2 per cent of the total appropriations and fixed charges for the years 1921-23 apply to departments engaged in "regulative" work. An analysis of the expenditures of these departments is shown in the second graph. Although 33 per cent of these "regulative" appropriations are accredited to the State Board of Health, approximately one-half of



Total State Appropriations, 1921-1923.



Appropriations, "Regulative" Boards, 1921-1923.

the State Board of Health appropriation is paid directly to the counties in the form of subsidies for county tuberculosis hospitals. A very small portion of this tuberculosis appropriation is used by the State Board of Health for the administration of the tuberculosis subsidy. This amounts to 4.9 per cent of the total tuberculosis appropriation. The State Board of Health, instead of receiving direct benefit of one-third of the amount devoted to "regulative purposes," actually has at its disposal 16 per cent of the total appropriation under this title.

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The Public Health Center of Alameda County, established four years ago by the many health agencies at work in the county, found it necessary during the first six months of this year to employ three full-time dentists, four half-time dentists and a dental hygienist. During this period 7,862 sittings were given, which represented 5,932 school children, and covers only those children who could not afford the services of a private dentist.

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One of the health hazards that most health departments do not have to consider is poisoning from camp-fire smoke. The danger of exposure to smoke from a fire of poisoned oak was one of the subjects of the weekly radio talks given by the State Board of Health. Another talk was on the necessity for carrying a spade on camping trips for digging trenches to provide for the disposal of refuse.

Connecticut

The annual meeting of the New Haven County Public Health Association was held at West Haven, Conn., September 7. Dr. Charles J. Bartlett, director of the Bureau of Laboratories, Connecticut State Department of Health, gave a résumé of his recent study of the value of commercial pasteurization of milk as carried on in New Haven. His report showed that in the samples of milk examined, commercial pasteurization of milk killed all the tubercle bacilli that may have been present. The tests were carried out by animal inoculations, and control tests indicated that the raw milk samples collected contained the tubercle bacillus.

Professor E. H. Jenkins, of the Connecticut Agricultural Experiment Station, spoke on the different varieties of mosquitoes found in Connecticut and stated that the malaria-carrying Anopheles could be found in nearly every town in the state. His address was especially interesting to the health officers present, in view of the many mosquito-breeding places in Connecticut this year caused by the unusually rainy summer.

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Dr. O. G. Wiedman has been appointed chief of the Mental Hygiene Division of the Connecticut State Department of Health, to succeed Dr. William B. Terhune, who has resigned in order to take up similar work in Stockbridge, Mass. Dr. Wiedman has instituted neuropsychiatric clinics for the treatment of nervous and mental disorders in Hartford, in connection with the Hartford Dispensary, 56 Winthrop Street, and in New Haven, in connection with the New Haven Dispensary, Congress Avenue and Cedar Street. Incipient, mild or serious cases of mental disorder will be given attention at the clinics, and mental states aggravating or simulating physical invalidism. The delinquent, the epileptic, the feeble-minded and the socially inadequate can be referred. The clinics are also prepared to give advice concerning the nervous child, the child suspected of subnormal intelligence and the one suffering from undesirable habits and unhealthy methods of reaction.

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During the summer the Connecticut State Department of Health began a sanitary survey of the coast of Connecticut with the object of eliminating all unnecessary sewage pollution from the tidal and coastal waters of the state which may be prejudicial to public health. Hearings were held on the first two sections of this survey at Pawcatuck and Stonington, Connecticut, on October 5. At the Pawcatuck hearing, the state of Rhode Island was represented by the secretary of the Rhode Island State Board of Health, Dr. B. U. Richards and Mr. L. W. Frost of the Rhode Island Board of Purification of Waters, and it is hoped that through the coöperation of the two states, the pollution of the waters forming the boundary line will be considerably diminished.

✚

With the October issue is resumed the publication of the monthly bulletin of the Bridgeport Department of Health, under the name of *Bridgeport's Health* instead of "Community Health." The new name seems to represent more nearly the objectives of the Department: to show how health may be obtained and kept; to keep the people informed as to the conditions which influence their health; to tell the conditions of health within the city, and to keep the public in touch with that branch of their city government to which they have given the important duty of safeguarding and preserving the lives and health of the people of Bridgeport.

Georgia

Dr. M. F. Haygood, who for many years has been director of county health work for the Georgia State Board of Health, has been selected by the International Health Board as a beneficiary under their scholarship system. Dr. Haygood has been assigned to Johns Hopkins University where he will be under the best teachers in America until he can complete the entire post-graduate work in public health and preventive medicine.

Illinois

On September 13 the Committee of Ten, appointed last August at a milk conference in Chicago to create favorable public opinion relative to pasteurization, met in the office of the state director of public health in Springfield. Plans for a publicity campaign were mapped out and adopted. The state was divided into ten districts, one assigned to each committeeman. A sub-committee of three members was appointed to

arrange publicity matter suitable for newspapers, special periodicals, special pamphlets and for lectures. Steps were taken also to organize a speakers' bureau, from which lecturers familiar with every phase of the milk problem may be obtained. According to the plans, each of the ten committeemen will be actively assisted by two state district health superintendents. The ultimate object of the campaign is to place in effect in every city in the state a model ordinance, the operation of which will insure a safe milk supply. While the publicity project is state-wide in its scope, efforts will be concentrated at first on the larger cities.

✣

A full-time schedule of crippled children's clinics has been resumed by the divisions of child hygiene and public-health nursing of the State Department of Public Health. During August and September comparatively little of this work was done during the Pageant of Progress in Chicago, the State Fair at Springfield and county fairs. At the present time clinics for crippled children are conducted regularly at twenty-five different points in the state and intermittantly at several other places. Of the 3,257 patients seen at the 185 clinics held during the fiscal year that closed June 30, it was found necessary to hospitalize only 54, satisfactory arrangements for treatment and care in the home having been effected for all others. Of the total there were 1,213 new patients and 335 of the latter were referred to the clinics by practicing physicians. Schedules for clinics are made a month in advance and may be obtained by physicians or others upon request to the department.

✣

During the first week in October when 333 cases of diphtheria were reported the increase amounted to nearly 100 per cent over the last week in September when 189 cases were reported. The latter was slightly higher than the average for the preceding four weeks. Up to October 1, there had been reported during the year something over 1,000 cases less than for the corresponding period in 1921. The State Department of Public Health has issued a special bulletin on the prevention and control of diphtheria. Space has been given to a discussion of the practical use of toxin-antitoxin and of the Schick test. The technique of administering antitoxin and the diphtheria carrier is also covered at some length. Copies of the bulletin are free to the medical profession and public-health workers in Illinois, and will be forwarded promptly upon receipt of requests addressed to Dr. Isaac D. Rawlings, director of public health, Springfield, Illinois.

✣

Smallpox incidence in Illinois between August 1 and October 15 was the lowest in several years. During this period 70 cases were reported, as compared with 91 for last year and 736 for the year before.

✣

A medical officer from the field staff of trachoma experts of the U. S. Public Health Service will shortly be detailed to make a survey of the trachoma situation at Anna. It is reported that considerable eye infection has been detected, especially among the school children, and that conflicting opinions as to the correct diagnosis have arisen. The investigation has been requested in order that proper control and preventive measures may be instituted.

✣

Arrangements have been completed by the State Department of Public Health to conduct a correspondence course of instruction for district health superintendents and local medical health officers. As a supplement to this course a weekly health index will be placed in the hands of those on the mailing list. The index will consist of a summary of the prevalence of communicable diseases by counties and a sheet of editorial matter.

✣

During the week October 22-28, a public-health program was carried out in the rural schools and Churches of Lake County under the direction of the county superintendent of schools. The State Department of Public Health coöperated in the project to the extent of supplying the services of two district health superintendents, motion picture films and other exhibit matter. Physicians, dentists and ministers of the county participated.

The program consisted of professional talks, health movies, health playlets and presentations by a professional public-health entertainer. School children, whose parents came out in goodly numbers, made up the

larger part of the attendance and the occasion was reported to have culminated very successfully.

✣

During the month of October the State Tuberculosis Association held one-day institutes throughout the state. Philip P. Jacobs of the National Tuberculosis Association addressed the meetings held in ten cities.

The State Tuberculosis Association announces that with the formation of county associations in Putnam and Henderson Counties, the whole state has been organized for county tuberculosis work.

Indiana

Miss Ruth Williams, formerly with the Visiting Nursing Staff of Louisville, Ky., has become the executive secretary of the Floyd County Tuberculosis Association, with headquarters at New Albany.

The first full-time county health officer in Indiana was appointed on June 1. Mr. Arthur L. Ollar on that date assumed the directorship of the department for Fulton County, which will have its headquarters in the county courthouse at Rochester.

The Tippecanoe County Tuberculosis Association has appointed Miss Nina V. Short as executive secretary of the Association.

The Nursing Service of Vermillion County, conducted jointly by the Tuberculosis Association and the Red Cross, has appointed Miss Emma Bunge as county nurse.

✣

A child hygiene campaign has been carried out in Vigo County by the Division of Infant and Child Hygiene of the State Board of Health. Practically all organizations interested in child health coöperated in the campaign. Meetings were held in nine places in the county and a total of 614 children were examined.

✣

At the Indiana Health Exposition a "Baby Conservatory" was constructed with windows on all sides. Two hundred and seventy-six children were given examination at the conservatory during the exposition. Another feature of the exposition was the "Fairy House" loaned by the Child Health Organization of America.

Iowa

An informative chart poster is published by the Iowa State Board of Health, presumably for posting in schools and other public places for the benefit of parents and teachers. This lists all the communicable diseases prevalent among children, with a list of symptoms of each disease, explains in detail the dangers of infection in each case, and gives advice regarding quarantine, which cases should be excluded from school, and general advice and detailed information as to immunization against typhoid, whooping cough, diphtheria and smallpox.

Maine

More than 120 doctors, nurses and health officers from all sections of the state attended the clinic held at Lewiston in August. This clinic was conducted under the joint auspices of the Maine Public Health Association, Maine Medical Association, The State Department of Health, the Androscoggin County Medical Society and the staffs of St. Marie Hospital, the Central Maine Hospital and Bates College.

✣

The city of Auburn is to have a venereal disease clinic which will be conducted by the health officer of the city, Dr. Leo F. Hall.

Massachusetts

The Medical Advisory Board of the Boston Health Department has issued a plea to physicians to control diphtheria. This plea is in the form of an eight-page pamphlet setting forth the desirability of giving the Schick test and directions for performing the test. Testimony as to the excellent results obtained from the wholesale application of this test is offered by the Department of Public Health of Philadelphia, the Cleveland Chamber of Commerce and others.

✣

William G. Kirschbaum, health officer of New Bedford, Mass., broadcasted a public-health message from station WDAU in that city on the evening of October 5th, which was heard by several thousand owners of receiving sets. Reports received by the owners of the station (Messrs. Slocum and Kilburn) were from points in western Massachusetts to the tip of Cape Cod and Nantucket.

✣

The health department of the city of Boston reports a statistical investigation of the length of time elapsing between the time

that cases of pulmonary tuberculosis are first reported to the health department and the subsequent date of death. Over 2,000 cases were studied, covering a period of three years, and it was shown that nearly 30 per cent of the deaths from tuberculosis were either not previously reported as cases at all, or were reported as cases less than a month before death occurred.

✣

Under the leadership of Professor Whipple there was organized this summer the Anti-Mosquito Association of Massachusetts. The objects of the Association are to stimulate interest in the suppression of the mosquitoes and other insects which affect human comfort and health; to secure and spread information, and to urge coöperative efforts by individuals, associations, communities and their governments to the end that these insect nuisances be done away with.

✣

The Supreme Court has upheld a regulation of the Health Commissioner on the handling of "rot" and "spot" eggs. This regulation requires that eggs which are solely for use for mechanical purposes should be denatured with a carbolic solution or its equivalent and kept in a metal container. This regulation was contested by a large firm which appealed from the ruling of the lower court that upheld the Health Commissioner.

✣

The Department of Labor and Industries has published a standard form for use in the examination of children applying for employment certificates. This form will be used by all issuing officers. The department is also preparing a handbook explaining the procedure in issuing employment and health certificates and badges for street trades.

✣

The March-April issue of *The Commonhealth* publishes a list of 58 health playlets, together with the name of the organizations from which they may be obtained.

✣

Those who went to the New England Public Health Institute were asked to go as students. The schedule of courses included twelve subjects presented in nine exercises a day for a week. The director of the institute was Dr. John T. Black, Health Commissioner of Connecticut. Dr. Kelly of the State Department of Health has been asked to direct the Institute for 1923.

✣

An excellent bibliography of health books for the home has been compiled by the Public Health Committee of the Boston section of the Council of Jewish Women. This list is printed in the May-June issue of *The Commonhealth*.

Michigan

One hundred and forty-three deaths from drowning were recorded in Michigan during the swimming season of 1922. This number falls below 1921, when 226 persons were drowned, by 83.

While this year's figures show a reduction, officials of the health department are of the opinion that if weather conditions for this summer and last were compared and the resultant decrease in popularity of bathing beaches considered the number of drownings would be proportionally equal. Statistics compiled in the United States Weather Bureau show that the temperatures of June, July and August this year were considerably lower than the same months of 1921.

✣

Health authorities can give no reason for the small number of cases of and deaths from infantile paralysis this year and do not know why the reactions of 1911 and 1916 were not repeated. With a jump from 19 cases in 1920 to 377 in 1921 and then a drop to 22 cases this year in the records, there is no attempt to predict the 1923 situation.

Following the 1921 epidemic letters were sent to all physicians in the state urging them to do all in their power to prevent a possible spread of the disease. Nothing more has been done because science has offered nothing new in the cause or treatment of the disease. It is most prevalent during June, July, August and September.

✣

Every child in Stanton, a village with a population of 862, has been immunized against diphtheria, but 3 deaths that health officials declare could have been prevented are recorded in the books of the State Department of Health. An epidemic of 22 cases swept over Stanton and before the Department was notified the cases of 3 of the children had gone so far that antitoxin could not save them. Local officials now have the Stanton situation under control. If

every child in Michigan were immunized there would be little or no diphtheria. Several small epidemics have been reported during October, but all have been controlled by use of antitoxin. Both toxin-antitoxin and antitoxin are distributed free of charge by the State Department of Health and can be obtained in every village and city in Michigan.

✣

Baby shows are ever popular. The Detroit Department of Health has just concluded its fourth contest this season, this time in conjunction with the International Institute. Fifteen countries were represented by the mothers of the babies—United States, Roumania, Czecho-Slovakia, Armenia, Syria, Italy, Greece, Belgium, Mexico, Bulgaria, Hungary, Ukraine, Bosnia, France and Jugo-Slavia. In Group I, for babies under 7 months, Ruth Hromadko won first prize with a score of 98.7. Ruth's mother was born in this country and her father comes from Czecho-Slovakia. Roumania and Czecho-Slovakia secured the second and third prizes. In Group II, for babies 7 to 12 months, Greece, Bulgaria and Italy took the first three prizes in the order mentioned. Little Eleanor Baisoglu whose mother hails from Greece captured first prize. The United States secured first and second prizes in Group III, for babies from 13 to 24 months, and Greece captured the third prize. The prize winners were planning a party to talk it over and get better acquainted. Thus does the Melting Pot Melt.

✣

The health department of Detroit will have, for the fiscal year ending June 30, 1923, $1.59 per capita for health work (not including capital costs), of which approximately $0.75 is for hospitals and the balance, or 84 cents, for other health activities. The health department appropriation represents 3.8 per cent of the total tax levy. Of the total spent for maintenance of the health department, 46.7 per cent is for hospitals, 33.2 per cent is for medical service, including dental and school inspection, infant welfare, venereal disease, contagious disease, tuberculosis and supervision. The remaining 25.1 per cent is for the maintenance of food inspection, laboratories, sanitary engineering, records and general administration.

The traveling clinic of the State Department of Health has visited, during the two years of its existence, seventy-five counties. This clinic consists of a tuberculosis and a children's unit. Forty-three hundred and forty-three persons have been examined for tuberculosis and eleven thousand, six hundred and thirty-one children have been examined for diseases and defects.

The second annual conference of health officers and public-health nurses will be held in Lansing from December 4 to 8, inclusive, under the auspices of the Michigan Department of Health and the Michigan Public Health Association.

This year's plan is similar to that of the first conference held here last year. It is designed as a short course of intensive training in public-health work. The program will stress rural health problems, the legal aspects of public-health and child-hygiene work under the provisions of the Sheppard-Towner Law. The prevention of goiter will receive special emphasis.

✣

Dr. R. O. Burke of Chicago succeeds Dr. C. A. Wilson as head of the tuberculosis unit of the State Health Institute. Dr. Wilson is now in Detroit.

Mrs. Elizabeth H. Vaughan of Detroit has been named assistant director of the Bureau of Child Hygiene and Public-Health Nursing. Mrs. Vaughan was formerly an official in the Visiting Nurses' Association and was overseas during the war with the American Red Cross.

Jessie Stevens, University of Wisconsin '22, has taken a position as junior bacteriologist in the laboratory of the State Department of Health.

The Board of Education of Detroit has arranged special classes for the blind and also for children whose sight cannot be corrected by the use of glasses. These later classes are known as sight-saving classes, and are located in public schools.

In the regular examination of school children by school medical examiners, children found to have defective hearing or sight will be urged to consult their physicians in order that defects may be corrected as fully as possible. That the records may be uniform, the Department of Health has prepared report blanks upon which the phy-

sician may record his findings and also his recommendation regarding the class at school which the child should attend.

Whenever a child is found whose parents cannot afford a physician, the child will be referred to the nearest hospital for such examination. Blanks have been provided these hospitals, so that as soon as the report is prepared it should be forwarded to the Department of Health at the earliest opportunity. Where the report indicates that a child is recommended for a sight-saving class, a class for the blind, or a class for defective hearing, the report will be transferred immediately to the Department of Special Education of the Board of Education. The child will then be assigned to the class for which he is eligible as indicated by the report of the physician. This system will be carried out in so far as the capacity of the class rooms will permit. These classes have been in operation for some time, so that it is felt that the experimental stage is past.

The cases of the principal diseases reported in the city of Detroit for the week ending October 7, as well as the norm, are as follows:

	This week	Norm
Scarlet fever	74	50
Diphtheria	60	91
Smallpox	..	5
Whooping cough	34	23
Typhoid fever	7	14
Measles	1	9

Missouri

The proposal of the Committee on Public Health and Welfare of the Missouri State Constitutional Convention, known as Proposal No. 192, which read: "The State General Assembly shall provide the means for the safeguarding and promotion of public health and welfare," was amended on October 10th by the Convention sitting as a committee of the whole, to read: "The General Assembly shall in the exercise of its legislative discretion, provide for the safeguarding and promotion of public health," by a vote of 27 ayes to 18 nays.

The amended proposal is to be acted upon by the Convention on its second, and again on its third reading; but it is reported that the prospect for its final adoption by the Convention is good.

Several proposals and amendments antagonistic to Proposal 192, submitted by Christian Scientists and other irregular practitioners, were voted down by the Convention sitting as a committee of the whole, after a campaign of strenuous activity.

✣

Since January 1 nine county health departments have been organized and placed in operation. Each of these is under the direction of a full-time health officer. These departments are established by the State Board of Health with the assistance of the United States Public Health Service and the International Health Board. Funds from county sources for partial support of these departments have been secured, varying in amounts from $3,600 to $12,000. Eleven county health departments are now in operation in the state.

✣

A sanitary engineering division has been established in the State Board of Health under the direction of Mr. George W. Putnam, and a division of tuberculosis under the direction of Dr. John F. Mahoney. An extensive anti-tuberculosis program is being undertaken.

✣

The third annual health officers' conference will be held in Columbia, Mo., November 24 and 25, under joint auspices of the State Board of Health and the State University.

New Mexico

Dr. Beaver, Valencia County health officer, has arranged with an otolaryngologist and a dentist to visit all parts of his county for the purpose of correcting defects found in school children. The county public-health nurse will precede the group, arranging for the clinics. Dr. Beaver and Miss Harris have done a surprisingly large amount of work among the school children and have found much that needed attention. They are to be congratulated on the good showing made, especially in view of the extent of their territory. It is understood that the two specialists have agreed to make the corrections for such fees as the public are able to pay, and to attend indigent cases free of charge.

✣

Miss Maud Bradish, of Walla Walla, Wash., has just been appointed public-health

nurse of Union County, to succeed Miss Irene McDonald. Miss McDonald is going to Denver.

Miss Margaret Tupper has resigned as supervising nurse in the Mexico State Bureau of Public Health, and has entered the public-health nursing course at Teachers' College, Columbia University, for special work.

✣

Dr. R. M. Schwartz, full-time health officer of Santa Fe County, resigned on October 1 to return to Cleveland, O. He was succeeded by Dr. D. B. Williams, who had been serving as full-time health officer of Torrance County. The health unit in this latter county was compelled to discontinue on account of a severe drought that partially depopulated the county and reduced its income considerably.

✣

A new full-time county health unit is to be established in Dona Ana County on January 1.

✣

Mr. H. F. Gray, sanitary engineer, State Bureau of Public Health, made an investigation of the pollution of the Las Animas River during the latter part of September. Since this was an interstate matter, Mr. Gray and the state director of public health went to Denver to confer with the Colorado State Board of Health on the subject. They were most cordially received, and assured by the Colorado authorities that they would coöperate in every way.

✣

On October 9 and 10 there was held the first meeting of insurance agents of New Mexico. The state director of public health read a paper on "The First Three Years of Mortality Registration in New Mexico."

New York

In enrolling nurses in the correspondence course in public-health nursing opened by the University and Bellevue Medical College, in coöperation with the New York State Department of Health, it was found that the general educational level among the nurses is higher than many had supposed. Nearly 40 per cent of the applicants have had four years in high schools, 4 per cent have had at least two years in college, and less than 25 per cent have not had two years in high school. Over 65 per cent are graduates of training schools connected with hospitals of more than 100 beds where training consumed not less than two years. Under 4 per cent have had no hospital training. Over 30 per cent are graduates of training schools, giving at least two years practice, connected with hospitals with less than 100 beds. If this group may be taken as typical, it would seem that the majority of nurses are capable of measuring up to the increasing demands which are being made upon them to qualify as teachers of health. The course is evidently reaching those for whom it was intended, namely, graduate nurses already in the field of active practice, especially in rural sections of the state. Thirty-four per cent of the first 200 enrolled are employed in rural districts having not over 2,500 inhabitants. The course consists of approximately five hundred hours of reading and study. One week of residence will be required in one of the three or four centers in the state.

✣

During the past few years there have been a number of outbreaks of typhoid fever in upstate cities, which have been traced to the mixing of auxiliary water supplies drawn from polluted sources for fire protection purposes with the regular drinking water supply of the city. The infusion of the polluted water in such cases has been due to cross connections in the water mains, and Mr. C. A. Holmquist, director of the Division of Sanitation of the State Department of Health, who has recently made a special report on this subject, has made long continued efforts to persuade city authorities to eliminate all such cross connections or to protect them by double check valves and double gate valves located in manholes where they would be accessible for inspection. As the result of a letter sent some months ago to the Consolidated Water Company of Utica on this subject, action was taken by the company which has now resulted in the cleaning up of all menacing conditions of this kind in that city. The engineering and biological departments of the water company investigated a total of 76 industrial plants in Utica and vicinity which are supplied by the company, and of these 40 had auxiliary fire supplies, only 11 of which were protected by double check valves. Accordingly, the company ad-

dressed a letter to each of the plants where potential danger of contamination of the public water supply existed, calling attention to the recommendations of the State Department of Health. Since August 1, 1922, all the requirements have been met by all the plants except one which has not been operated for some time and will probably not be reopened.

✣

At the September term of the Appellate Division of the Supreme Court, sitting in Albany, a decision was handed down in the case of Maria Berresi vs. the State Commissioner of Health, which emphatically sustains the discretionary power of the Commissioner to issue or to withhold annual licenses to midwives, as provided in the public-health law and the state sanitary code. The decision, which was written by Justice Kellogg, reversed the order of the lower court which had granted a writ of mandamus compelling the Health Commissioner to issue a license to the midwife in question. A review of the case by Justice Hinman, who concurred in the unanimous decision of the Appellate Division, likewise emphasizes the unrestricted right of the state health authorities to control the practice of midwifery by the issuing of licenses.

✣

The Public Health Committee of the New York Academy of Medicine is conducting a study of child health in New York City. This study will follow the lines of the investigations made in previous years by this Committee, of hospitals and dispensaries. Dr. E. H. Lewinski-Corwin will direct the present study, as he also did the previous studies. Mr. Homer N. Calver is assisting in the direction of the study.

✣

The local medical association of Spokane County has inaugurated a method of acquainting the public with medical news in a fashion that maintains the highest ethical standard. Three times a week articles on medical topics of interest and importance couched in terms comprehensible to the average citizen are published in the local newspapers over the name of the County Medical Society.

✣

Less than 10 per cent of the 750,000 food handlers who live and work in New York City are examined for communicable disease in the course of a year. Out of the number so examined less than 25 per cent are examined by the staff of the health department. The balance of the examinations are made by private physicians. These have discovered very few cases of communicable disease. Since this work started in 1915, 7 typhoid carriers have been detected.

✣

For the coming year the Maternity Center Association in New York will concentrate its work in one district, on the lower east side. Previously its activities have been carried on in various parts of the city. The new arrangement will make it possible to measure the effect of an intensive effort applied to a small and definite area.

✣

M. Luise Diez, M.D., has recently been appointed obstetrician in the Division of Maternity, Infancy and Child Hygiene. Dr. Diez is a graduate of the Women's Medical College of Pennsylvania, and after serving as interne in the West Philadelphia Hospital for Women, she was engaged in obstetric practice in Philadelphia for 15 years, during which time she was attending obstetrician at the Women's Hospital of Philadelphia, also serving on the obstetrical and gynecological staff of the Philadelphia General Hospital and the West Philadelphia Hospital for Women. Dr. Diez took a post-graduate course at Dresden, Germany.

✣

Valconlon L. Ellicott, M.D., Dr. P.H., of Baltimore, has been appointed epidemiologist in the New York State Department of Health. Dr. Ellicott is a graduate of the Medical School and the School of Hygiene and Public Health of Johns Hopkins University. He has recently served as interne in the Willard Parker Hospital, New York City.

✣

Stanton P. Hull, M.D., has recently been appointed member of the Public Health Council by Governor Miller, to succeed Mrs. Elmer Blair, whose term has expired. Dr. Hull is a graduate of Albany Medical College and took a post-graduate course at the New York Lying-In Hospital and the New York Post-Graduate Hospital. He has been health officer in districts of Rensselaer County since graduation.

Ohio

Dr. E. J. Schwartz has been appointed by Health Director Snively to have charge of the Bureau of Vital Statistics and he is now engaged in this work. He succeeded Dr. U. G. Murrell of Wilmington, who was appointed to this position by Secretary of State Smith before the Bureau of Vital Statistics was transferred to the Department of Health. Dr. Schwartz plans to increase the service of this important bureau to the health workers and to the general public.

Dr. R. C. Dysart, Columbus, recently returned from two and one-half years' service with the Red Cross in the Baltic States, has been appointed assistant in the Division of Communicable diseases of the State Department of Health.

✣

The annual meeting of the Ohio Public Health Association will be held in January or early in February, the date to be fixed later. Plans are under consideration for extending the scope of the Association's activities in public-health work in the state.

✣

The sub-committee of the Toledo City Council on the municipal hospital has proposed a bond issue of $200,000 to remodel and equip a building for a new city hospital. The present institution has bed accommodations for 45 patients, and the proposed new hospital will provide 150 beds. During 1921, 30,965 treatments were given at the present hospital, of which 27,110 were given in the venereal department.

✣

Miss Margaret Royce and Miss Christine Brunk have joined the staff of the Manfield Public Health Nurse Association. This association is taking an active part in the work of the Child Health Demonstration of the National Child Health Council.

✣

The Van Wert City Board of Health has employed Miss Clara Schumm as community health nurse for the city.

✣

The sum of $62,000 has been appropriated for a children's pavilion and $100,000 has been appropriated for an administration building to be erected at Warrensville, outside of Cleveland, for the care of the tuberculous.

Dr. Joseph Blickensderfer, health commissioner of New Philadelphia, has been made health commissioner of Tuscarawas County, succeeding Dr. Max Shawaker, Dover, resigned. Dr. Blickensderfer will act as commissioner for New Philadelphia and the county as a whole.

✣

Auglaize County has completed the organization of a public-health league. There are forty directors, representing each township and village in the county.

Mexico

It is reported that the Republic of Mexico may soon have a new national holiday to be called "Jenner Day" in honor of the discoverer of vaccination for smallpox. A number of Mexican physicians and health officers in the northern part of the republic are working to secure the establishment of the new holiday.

Nova Scotia

Very impressive exercises marked the laying of the corner stone of the Medical Science Laboratory Building of Dalhousie University September 29. In describing the uses to which the new building will be placed, President Mackenzie said that for the present it would be used for the study of bio-chemistry, physiology, pharmacology and hygiene. Dr. John Stewart, in laying the corner stone, used the same trowel which Lord Dalhousie used in laying the corner stone of the first building of the university over a hundred years ago.

The post-graduate course given the medical profession of the Maritime Provinces by Dalhousie University has proved of great interest to the medical fraternity. On September 28 medical clinics were given by the staff of the Massachusetts-Halifax Health Commission, 17 physicians taking in these lectures and clinics attending. The newest phase of work from the purely medical standpoint was that of the pre-school age dental clinic. Dr. Arrabelle MacKenzie was able to show numerous children where eruption of the teeth showed faulty nourishment of the mother during the prenatal period; where the enamel of the teeth was absent or worthless because the expectant mother had not taken the right kind of food.

PUBLIC HEALTH LABORATORY NOTES

Abstracted by ARTHUR LEDERER, M. D.

Glucose Mobilization Rate in Hyperthyroidism.—The abnormal blood sugar curves reported heretofore in cases of hyperthyroidism were found, for the most part, in the authors' cases. Normal curves in strikingly toxic cases, however, were not unusual. It has been shown that in hyperthyroidism, sugar, when it is offered to the tissues as a fuel, is burned with great avidity. The increased utilization of carbohydrate after carbohydrate ingestion, along with the maintained high blood sugar, points toward an inability to store glucose—most probably a failure of liver storage due to some toxic change in the liver caused by the disease. This fits in with the results found in thyroid-fed animals and is suggested by clinical cases of exophthalmic goiter in which carbohydrate restriction is attempted.—Bertram J. Sanger and Elsie G. Hun, *Arch. Int. Med.* 30,397 (1922).

✣

A New Typhus Organism.—The author gives an account of an organism described by Schestopal under the name of "Spirochæta emiliæ Schestopal," which is found in the blood of the roseolæ or petechiæ of typhus patients. It is present in all stages of the disease, but is most likely to be met with in roseolæ two or three days old. The organism is a spirochæte varying in length from a quarter to five times the diameter of a red corpuscle. It is thinner than a red corpuscle and is about the size of S. pallida, but has more numerous and smaller spirals. Almost all the spirochetes in the field are attached to red corpuscles. They show active movements which last for about 36 hours after the blood has been taken.—Belai, *Wien. klin. Woch. schr.* April 20, 1922; *Brit. Med. Jour.*, Aug. 26, 1922.

✣

Diagnostic Value of Blood Sugar Curves in Neurology.—Sugar tolerance tests are not believed to be of sufficient value neurologically to make this procedure routine in all cases. The whole technic is difficult to carry out; it is time-consuming, and often disagreeable to the patient. Blood sugar curves have no prognostic value, and their change in type cannot at the present time be interpreted as a proof of the effectiveness of therapeutic procedures.—Sidney I. Schwab, *Arch. Neur. Psych.* 8, 401, (1922).

✣

Studies in the Kottmann Reaction for Thyroid Activity.—In clinical cases of hyperthyroidism the Kottmann reaction may return to normal after thyroidectomy. Fright, on the other hand, produced a positive reaction in two patients; in control patients who were subjected to similar trauma, but who were not frightened (one unconscious, one semi-conscious, the other conscious and calm), the reaction was within normal limits. Experimentally, it has been found that thyrotoxin injections, irradiation and massage of the hypertrophied glands resulted in an increased protective property of the serum, which became manifest in the course of several days. The serum alteration, is therefore, not a direct one, but is evidently the result of alterations in cellular metabolism brought about by the increased thyroid activity. Other experimental procedures may alter the reaction (bacterial shock, peptone shock, trypsin ingestion, hemorrhage, irradiation of remote organs). In no case was the delay in the reaction comparable to that observed with exophthalmic serums, and the authors do not believe that the alterations in the reactions observed under these experimental conditions will detract from the clinical usefulness of the test in the diagnosis and the control of the therapy of thyroid dysfunction.—W. F. Petersen, F. T. H'Doubler, S. A. Levinson and J. E. F. Laibe, *Arch. Int. Med.* 30,386, (1922).

✣

Transparent Milk as a Bacteriological Medium.—Milk may be transformed into a transparent culture medium by the addition of small amounts of various salts. Sodium citrate seems to be the most suitable for this purpose. In such a medium there may be observed not only the ordinary reactions of various bacteria in milk, but also some others not observed in untreated milk. The principal advantages of

the transparent milk as a medium reside in the greater visibility of changes which occur in it. Indicators are much more easily seen in it than in opaque milk. As long as the acidity remains below PH5.5, colorimetric hydrogen-ion determinations are easily made. Clouding and the formation of sediment due to bacterial growth may be observed as in bouillon when no visible change whatever is produced in ordinary opaque milk.—J. Howard Brown and Paul E. Howe, *Jour. Bact.* 7, 511, (1922).

✣

Differential Diagnosis of Diabetes by Means of Glucose Tolerance.—In the presence of sugar in the urine, before a diagnosis of diabetes can be definitely established, a fasting blood sugar estimation should be made to ascertain whether the urinary sugar is due to a true diabetes or merely to a permeable renal filter. Children with a diabetic inheritance should always be subjected to a glucose tolerance test, as the development of diabetes can thus be established before the ordinary tests can give any clue. The presence of glycosuria indicates one of two things: (1) a true disturbance of carbohydrate metabolism, i. e. diabetes, or (2) a permeable renal filter, i. e., not diabetes.—Henry J. John, *Jour A. M. A.*, 79, 1234, (1922).

✣

Value of Sachs-Georgi Test.—Seven hundred serums were tested by the author by the Sachs-Georgi test. There was 92.2 per cent correspondence with the Wassermann test. The Sachs-Georgi test, performed with an extract of the heart of the black pig common to North China, is considered a reliable test for syphilis. The test is simple, cheap and specific. In the supplementary aid to blood and spinal fluid Wassermann laboratory it is very useful as a test.—H. W. Y. Taylor, *China, Med. Jour.* 36, 344, (1922); *Jour. A. M. A.* 79, 1080, (1922).

✣

Cultivation of Trichomonas.—Trichomonas is a widely and highly prevalent inhabitant of the body of man, and is being extensively treated as a pathogenic organism. There exists only circumstantial evidence of any harmful effects from it or even of its true parasitism. The ease with which it may be grown artificially, its feeding habits, its high prevalence in the healthy and its long continuance without resulting disturbance in the human body indicate it as a harmless commensal. For a proper judgment of the clinical significance of Trichomonas, the organism must first be accurately differentiated from others now confused with it and, if there are different organisms now included in the genus, they must be separated. Trichomonas must be studied under the same conditions before they may be differentiated. This would appear to be best done in culture in the same mediums. In culture in the same material, Trichomonads from the human mouth, vagina and intestine have not been certainly differentiated in this study. There exists no proof that Trichomonads of other animals are identical with those of man, and at least some of them are certainly distinct.—Kenneth M. Lynch, *Jour. A. M. A.*, 79, 1130, (1922).

✣

The Blood Groups from Transfusion Standpoint.—The author presents evidence that the previous taking of a drug, or general anesthesia, or roentgen irradiation may modify the blood enough to change it from one group to another for the time being. This may interfere with transfusion work. He points out, further, that serum from persons with cancer, tuberculosis or inflammatory processes in the subacute and chronic stages lake the blood cells and conglutinate them. He classifies bloods in five separate groups.—N. J. Vorschuetz, *Zeitsch. klin. Med, Berlin*, 94, 459, (1922); *Jour. A. M. A.*, 79, 1186, (1922).

✣

Staining of Tubercle Bacilli.—The author gives the findings in parallel tests with five different staining methods in the sputum from 56 cases and from the pus in 40. All this evidence testifies, he asserts, that the Spengler method, or the modification of it by Joetten-Haarmann, is far more reliable than any other. The number of tubercle bacilli shown by the Ziehl-Neelsen in one visual field averaged only 4.67, in marked contrast to the 25.18 found with the Spengler technic in the same sputum, the Konrich method yielded only 9.26. The Ziehl-Neelsen twice was entirely negative when the other methods showed 2.8 and 0.65. In one case the Ziehl showed 19.7; the Spengler, 370.3. With the Spengler method, the ordinary carbol-fuchsin stain is followed by picric acid-alcohol for two or three seconds after pouring off the fuchsin. Then 3 or 4 drops of a 15 per cent solution of nitric acid for five seconds. This is then poured off, and the picric acid-alcohol is applied again until the sputum looks yellowish. Then wash in water; dry, etc. The picric acid solution is made with 2 gm. of picric acid in 40 c.c. of distilled water, allowed to stand

for twenty-four hours; then it is filtered, and an equal volume of 96 per cent alcohol is added.—F. Geschke, *Zeitsch. Tuberk., Leipzig*, 36, 351, (1922); *Jour. A. M. A.* 79, 1186, (1992).

✣

Changes in Nutrient Agar Due to Clarifying with Egg.—In making a standard agar the method of clarifying should be specified. An agar which is egg-cleared is a special, or egg agar because: 1. It contains sulphur compounds derived from the egg. 2. The reaction of the agar is influenced. 3. A fermentable substance is added, presumably glucose from egg white, which in both anærobic cultures and on ærobic plates affects the rate of growth of certain bacteria.—Luther Thompson, *Jour. Lab. Clin. Med.* 7, 758, (1922).

✣

A Box for Handling Small Animals in the Laboratory.—For the past two years in the laboratory of surgical research of the Mayo Foundation the author has used a simple box for controlling small laboratory animals such as rabbits and cats, so that tubation, feeding, and intravenous injections into ear veins can be carried out easily by one person. A description of the box is given; also two illustrations. The animal (rabbit or cat) is placed in the box, and the box closed with the head of the animal protruding through the aperture, pillory fashion. A hinge holds the box closed. The animal's head is held relatively fixed and the investigator is protected from scratching. For esophageal intubation a No. 10 French soft rubber catheter is introduced through a small opening in a wooden tongue depressor which has been pried between the teeth of the animal as a mouth gag. The catheter is passed into the esophagus by touch and to the stomach. For the intravenous injection of bacteria, drugs, and so forth, the ear is caught at its tip and the head is gently but firmly pulled forward away from the box. The hypodermic needle is then introduced into the marginal vein and the injection made. Animals handled in this manner are subjected to a minimum amount of discomfort.—Linwood D. Keyser, *Jour. Lab. Clin. Med.* 7, 761, (1922).

✣

Etiology of Dental Caries.—The examination of selected carious material showed the constant presence of a definite type of bacillus. The bacilli are capable of producing a high degree of acidity by the fermentation of carbohydrates. The average final pH value of nine strains was 2.75, which is sufficient to decalcify teeth. Teeth left in contact with pure cultures over prolonged periods show changes almost identical with those found in natural caries. Such teeth showed erosion of the enamel with penetration of the dentinal tubules and the formation of liquefaction foci. The bacilli, to which the authors propose to give the name B. acidophilus odontolyticus, in their resistance to and formation of acid, resemble the "acidophilus" group of Moro; biologically, however, there are several points of difference.—J. McIntosh, W. W. James and P. Lazarus-Barlow, *Jour. Exp. Path.* 3, 138, (1922).

✣

Pure Cultures of Large Mononuclear Leucocytes.—Pure strains of mononuclear leucocytes were isolated from the blood of adult chickens and kept in active condition for nearly three months. The cultures were composed of large mononuclear leucocytes which migrated and proliferated in vitro at a slower rate than fibroblasts. The cells had no tendency to form a tissue, as do fibroblasts and epithelial cells. They were much less resistant than fibroblasts. The activity of large mononuclears was increased by embryonic tissue juice and inhibited by homologous serum.—Alexis Carrel and A. H. Ebeling, *Jour. Exp. Med.* 36, 365, (1922).

✣

A Pure Strain of Cartilage Cells in Vitro.—A strain of cartilage cells obtained from the pars cartilago scleræ of the eye of the chick embryo has been cultivated for more than three months in vitro. The initial growth of the cartilage was possible only on the free surface of the coagulum. The rate of growth of cartilage was slower than that of fibroblasts and epithelium. After cultivation on the surface of the coagulum the cartilage cells could multiply even when imbedded in the coagulum, but their growth was less extensive and uniform.—Albert Fischer, *Jour. Exp. Med.* 36, 379, (1922).

✣

The Iodin Content of the Blood Following Thyroidectomy.—After thyroidectomy in dogs the iodin content of the blood is increased. The administration of fresh thyroid gland of sheep by mouth to thyroidectomized dogs causes the iodin content of the blood to fall, so that it returns to the normal preoperative level. When the thyroid feeding is discontinued the iodin content of the blood is again increased.—W. A. Hudson, *Jour. Exp. Med.* 36, 469, (1922).

Reliability of the Benedict and Folin-Wu Blood Sugar Determinations.—The Folin-Wu blood sugar determination was found to give more reliable results than Benedict's method.—F. A. Csonka and G. C. Taggart, *Jour. Biol. Chem.* 54, 1 (1922).

✚

Sickle Cell Anemia.—The clinical features and the morphologic alterations of the red blood cells are so characteristic that differential diagnosis is not difficult. The blood picture does not resemble that seen in any of the more common anemias, and it is possible that the disease represents a clinical entity. If that is true, it is of particular interest that up to the present the malady has been seen only in the Negro, and, so far as could be ascertained, it is the only disease peculiar to that race. V. R. Mason, *Jour. A.M.A.* 79, 1318, (1922).

✚

Hemolytic Streptococci in Feces in Scarlet Fever.—The author asserts that hemolytic streptococci are more abundant in the feces from cases of scarlet fever and from cases of nephritis, whether associated with scarlet fever or not, than in the feces of normal patients. The type of hemolytic streptococci isolated from the feces of such cases is not a uniform one. Such streptococci appear to be non-pathogenic to rabbits.—E. Wordley, *Lancet, London*, Sept. 9, 1922; *Jour. A.M.A.* 79, 1365, (1922).

✚

Quantitative Determination of Carbon Monoxide in Blood by Tannic Acid Method.—Measure into a test tube of the same size and glass as used for the standards, 1 c.c. of a 0.05 per cent solution of potassium citrate or 0.03 per cent solution of sodium fluoride, depending on the anticoagulant used in preparing the standards. Then, by the aid of a hemospast, make a small puncture wound in the tip of the sterilized finger of the subject, and, with a capillary pipette, draw up 0.1 c.c. of blood. Quickly discharge this into the solution in the test tube, and add 1 c.c. of the mixture of pyrogallic and tannic acids as described. After inverting twice to mix the constituents thoroughly, and allowing to stand from 8 to 10 minutes, a comparison with the standards can be made and the percentage noted. It is a very good practice to prepare a similar sample from an unexposed subject, thus insuring against spoiled reagents or change in standards. Any differences noted in this control should be considered in estimating other samples. The comparison of unknowns with standards can be made in various ways. Our procedure is to hold the unknown in the hand together with a row of four or five standards, and move its position until it, by color comparison, fits between two of them, after which an estimation can be made on the basis of the value of the two standards; or comparison can be made in a test-tube rack having fixed positions for the standard and a space between each of the interposition of the unknowns. In the use of this latter, the unknown is again moved until a place is found where it is, say, a little more red than the 20 and a little less than the 30. In making the comparison, the observer should stand with his back to the light, viewing the tubes by reflection, and should change the position of the tubes several times to note if any differences occur that are due merely to unequal lighting effect. Also holding the tubes against a black background, such as a coat sleeve, seems to facilitate the observation. The procedure of preparing the standards is given. The results are more easily obtained, and are, as a whole, more dependable than with any other method tried.—R. R. Sayers and W. P. Yant, *Public Health Reports, U. S. P. H. S.* Oct. 6, 1922.

✚

CONVENTIONS, CONFERENCES AND MEETINGS

This calendar is published through the cooperation of the National Health Council, 370 Seventh Avenue, New York City. The Council will be glad to answer promptly any written or telegraphic inquiries regarding meeting dates in order to avoid conflicts.

December 1-2, Forty-eighth Session New Jersey Sanitary Association, Lakewood, N. J.

December 4-7, American Society of Mechanical Engineers, New York City.

December 4-8, Radiological Society of North America, Detroit, Mich.

December 8-9, Western Surgical Association, Minneapolis.

December 12-14, Southern Surgical Association, Pinehurst, N. C.

December 26-30, American Association for Advancement of Science, Boston, Mass.

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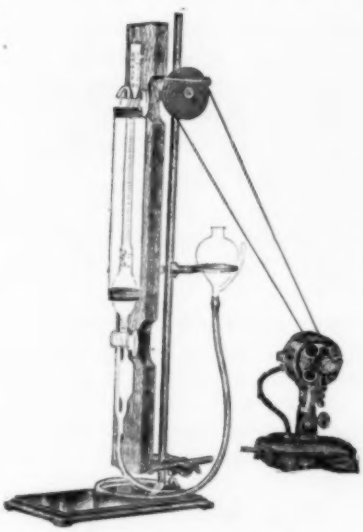

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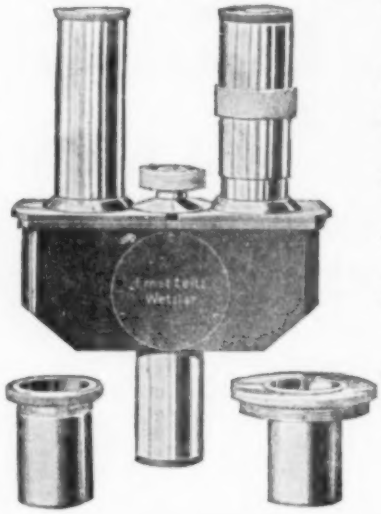

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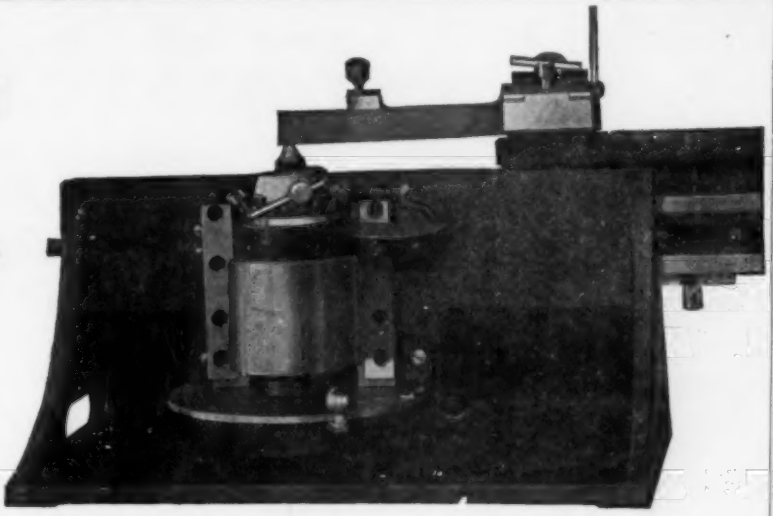

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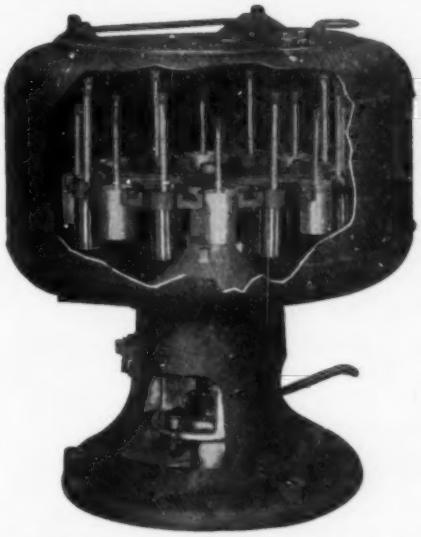

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